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UNIVERSITY OF ALBERTA

EATING ATTITUDES, ANXIETY, AND FAMILY PATTERNS IN A SAMPLE OF BALLET STUDENTS

by

Shauna Rosiechuk

©

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF Master of Education

IN

Counselling Psychology

Department of Educational Psychology

EDMONTON, ALBERTA

Fall, 1987

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The undersigned certify that they have read and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled: Eating Attitudes, Anxiety, and Family Patterns in a Sample of Ballet Students, submitted by Shauna Rosiechuk in partial fulfillment for the degree of Master of Education in Counselling Psychology.

E. E. Fox
(Supervisor)

D. G. Jamieson

John Young

Date: Sept. 8, 1987.

DEDICATION

To my parents

ABSTRACT

The purpose of this research was to examine the system of relationships among eating attitudes, demographic variables, anxiety, and family patterns of ballet students. The EAT (Eating Attitudes Test) was used as a screening instrument for identifying high-risk cases of eating disorders among ballet students, identified as a high-risk group. An author constructed Demographic Questionnaire, the Ipat (ASQ) Anxiety Scale Questionnaire, and the FACES II - Family Adaptability and Cohesion Evaluation Scales were administered to assess dieting attitudes and behavior, general lifestyles, anxiety, family patterns, and as a means of validating scores on the Eating Attitudes Test. Results indicated a positive relationship betwen eating attitudes (EAT) and anxiety scores. Significant associations between groups of eating attitudes scores and demographic profiles were reported. Additional correlations provided support for previous research. One hundred and thirty packets containing a four-part questionnaire were distributed to three dance studios in Edmonton, Alberta. The data analysis was based on 55 returns or 42%.

The data analysis included Pearson Product Moment Correlations between all variables. Analyses of variance were computed comparing high and low eating attitude scores with anxiety scores and family profiles. Chi-square statistics were calculated comparing EAT group scores with family types and scores derived from the Demographic Questionnaire. Future research should aim to clarify the roles of predisposing factors in order to be useful in the treatment of eating disorders.

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Chapter I

Introduction

A. Anorexia as a Popular Phenomenon

The study of anorexia nervosa has rapidly expanded in the last decade. This expansion has evolved into a popular topic examined in modern fiction, movies, and the news media. Perhaps some of the fascination with this disorder lies in the fact that 10-15 percent of identified female anorexics eventually die.

The amount of research in the area of eating disorders has also expanded. However, little headway has been made in identifying definitive diagnostic, predispositional treatment, or outcome variables. Recently, psychiatrists and psychologists were polled on their opinions regarding the features of anorexia nervosa (Whyte and Kaczkowski, 1983). The two groups agreed that loss of weight, body image distortion and absence of underlying physical illness were the main components involved. However, the groups disagreed with respect to the role of overactivity, anxiety related to eating, onset, and presence of additional psychological illness.

While professionals debate over the various aspects of the disorder, the reported incidence of anorexia nervosa is rapidly increasing (Bemis, 1978; Neuman and

Halvorson, 1983). A significant feature of this disorder is the fact that the overwhelming majority of cases (90%) are adolescent and young adult females (Garner and Garfinkel, 1982).

Paradoxically, during the last 20 years Miss America pageant contestants and Playboy centerfolds have become thinner, while average women of similar age have become heavier. During this same period, there has been an increasing number of diet articles in women's magazines (Garner and Garfinkel, 1980). If these role models are embraced as part of the individual, family, and societal context, it is likely that a heightened risk exists for the development of anorexia nervosa.

Our society is bombarded daily by advertisements telling us to "don't just think about it, do it! - participaction!" and how "you too can lose pounds and inches in days". However, individuals within certain careers have an endemic concern with body image and weight loss. Athletes, models, and dancers are all populations which have been recognized as having higher rates of eating disorders than the general population (Garner and Garfinkel, 1980, 1983; Hamilton et al. 1985; Yates et al. 1983).

While a variety of psychometric measures have been used to study non-clinical populations in an attempt to identify clusters of behavioral and attitudinal

characteristics that may be indicative of disturbed eating, (Garner and Garfinkel, 1979; Garner and Garfinkel, 1982; Garner, Olmstead and Garfinkel, 1983; Halmi, Falk and Schwartz, 1981) no such relationship has been established between excessive exercise and anorexia (Epling and Pierce, in press). Why some dieters become anorexic still remains a mystery. Researchers have proposed that extreme dieting and a drive toward thinness interact with other predisposing forces, some of which may be psychological (Garner and Garfinkel, 1982; Crisp, 1980). It is suggested that the increasing incidence of anorexia and the greater awareness of "anorexic-like" behaviour should induce more research on "at risk" populations and on distinctions between subgroupings of anorexics.

B. Purpose and Justification of the Study.

Due to the strict diagnostic criteria proposed for anorexia nervosa (see Appendix A), many anorexics are not discovered until the more severe starvation stages of the disorder or may not be discovered at all if they do not adhere to the "classical symptoms". Athletes, models, and dancers are even less likely to be diagnosed since they are expected, if not commanded, to remain extremely thin as a picture of ideal health, beauty, and grace. Screening instruments have been devised and use

of these devices with these populations have revealed a much higher incidence of anorexia nervosa and related eating disorders than the general public. However, it remains uncertain as to what possible predisposing factors make these groups so susceptible to life-threatening chronic dieting.

In this study, the Eating Attitudes Test (EAT) was used as a screening instrument to identify possible cases of anorexia nervosa or related anorexic behaviour among ballet dancers/students who have previously been identified as a high risk group (Garner & Garfinkel, 1982; Hamilton et al., 1985). A Demographic Questionnaire was administered along with the Ipat Anxiety Scale Questionnaire (ASQ) and the FACES II - Family Adaptability and Cohesion Evaluation Scales in order to evaluate demographic information, personality characteristics, family profiles, and lifestyles of the subjects.

It is suggested that those scoring high on the EAT (a score of 30 or greater out of a possible maximum score of 120) could be identified as high risk individuals who have full-blown eating disorders and/or prone to anorexic behaviour and symptoms. Furthermore, these high risk individuals may exhibit problematic behaviour and attitudes on the Ipat Anxiety Scale Questionnaire (ASQ) and the FACES II family profile.

This study is exploratory in nature and focuses upon a small group of ballet dancers/students residing in Edmonton, Alberta. Information was acquired from a four-part questionnaire which was distributed to approximately 130 dancers. It is hoped that the use of the EAT and related instruments will be important in the identification of vulnerable individuals. In addition the respective demographic, personality, and familial information may contribute to an understanding of early identification of at-risk or predisposing factors.

C. Organization of the Report

In Chapter II a brief review of relevant literature is provided with a focus on individual, family, and cultural factors. Chapter III provides an explanation of the research design and methodology. Findings and results are presented in Chapter IV. Chapter V summarizes relevant research findings, conclusions, possible questions, and implications for future research.

Chapter II

Related Literature

Anorexia Nervosa - History

Anorexia Nervosa can be traced back to the Middle Ages. This period equated goodness with thinness, and fasting with virtue and purity. The first clinical description of the disease was made by Richard Morton in 1689. He used the term "nervous atrophy" to refer to a syndrome of consumption that was accompanied by a loss of weight and digestive difficulties (in Selvini-Palazzoli, 1978, p.4). He described amenorrhea, hyperactivity, and a lack of appetite as characteristics of the disease. Morton assumed this disease stemmed from "sadness and anxious cares" (in Selvini-Palazzoli 1978, p.4).

By the second half of the nineteenth century, anorexia nervosa developed into a modern clinical entity with a defined symptomatology. Researchers argued that the term "anorexia" was itself misleading since a true lack of appetite is only apparent in the later stages of the disorder. Medical men such as E.C. Lasegue and W.W. Gull described the syndrome in similar terms - a peculiar mental state (almost exclusively female) characterized by a refusal to eat and extreme emaciation

believed to be brought about by psychological factors. Thus, by 1900, it was widely agreed that anorexia nervosa was a mental illness.

From 1914 until the 1940's, the perception of anorexia nervosa as a psychological condition became lost in the discovery of Simmonds' disease. This was basically a glandular disease based on hyperpituitarianism but the patients with this disease also tended to be extremely emaciated. Researchers in the 1940's reasserted the nineteenth century view of a psychological disorder where physical changes were actually a result of starvation.

At the present time there is disagreement among researchers as to whether anorexia nervosa is a specific psychiatric disorder or a combination of different syndromes. Bulimia has been recognized as a distinct subtype of anorexia defined as "an abnormal increase in the desire to eat, with excessive eating which the patient viewed as ego-alien and out of her control" (Garfinkel, 1981). However, this study will deal exclusively with restrictive anorexia nervosa. There is also widespread disagreement over diagnostic criteria. Indeed, one of the major problems in diagnosis and treatment is the inconsistency of the definition of the syndrome itself. It is important to keep in mind that a significant number of diagnosed anorexic cases actually

may be bulimics. It is also possible that an additional amount of cases have been misdiagnosed and are not examples of eating-related disorders.

The American Anorexia Nervosa Association defines anorexia as a "serious illness of deliberate self-starvation with profound psychiatric and physical components" (in Neuman and Halverson, 1983). The American Psychiatric Association has published standardized diagnostic criteria in their third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III). However, many researchers have developed their own criteria (see Appendix A for Dally, 1979; Feighner et al., 1972; Garfinkel and Garner, 1982; Russell, 1970). Most of these criteria of the classic restrictive anorexia (versus the bulimic or other similar disorders) involve: a loss of 10-30 percent of premorbid weight with no apparent organic basis; and active and continued refusal to eat enough to maintain a normal weight; amenorrhea; onset in adolescence. These criteria lack any psychological criteria except "body image disturbance", and this term in itself is not clearly defined. Furthermore, the weight criteria may result in appropriate treatment being withheld from those who have not yet lost 1/4 of their original body weight.

Naturally the researcher's own theoretical background

and orientation guide him or her toward the use of a specific theory. Nonetheless, it has become accepted that anorexia nervosa is probably a multidetermined disorder (Garfinkel and Garner, 1982). Thus, the literature has shifted towards an emphasis on implementing a somewhat eclectic approach to therapy. The shift to a broader scope of therapeutic technique requires a theory which includes the individual in the context of the family and the society.

Social/Cultural Factors

In previous studies it has been found that anorexia nervosa was over-represented in upper middle class and upper class families (Beaumont et al., 1978; Crisp, Palmer and Kalucy, 1976; Dally, 1979; Hall, 1978). More importantly, it is the impression of some researchers that anorexia has become more common and more equally distributed throughout the social classes (Dally, 1979; Garfinkel and Garner, 1982). It is currently suggested that predisposing cultural factors, attitudes regarding body weight, achievement and self-control are becoming more evenly distributed throughout our society (Garfinkel and Garner, 1980, 1982, 1983). Anorexia nervosa is commonly found in the USA, Canada, Scandinavia and Western European countries. Anorexia is also known in Russia and in Eastern European

countries. The distribution of this disorder may be related to availability of food and cultural attitudes towards size and shape.

There is a lack of consensus whether religious affiliation is a predisposing factor in the development of anorexia nervosa. Some researchers note a high degree of exposure to strict religious beliefs (especially in regard to dieting and fasting behaviour) in their cases (Beaumont et al., 1978). However, this may reflect social class position, referral bias, or even observer bias. Other researchers (Dally, 1979; Hall, 1978; Garfinkel and Garner, 1982) have failed to find patterns of religious affiliation which differed from the general population. The lack of adequate non-patient comparisons may or may not have influenced these results. Similarly, the data suggest that the bulk of anorexic patients come from a variety of family sizes and from any birth order (Dally, 1979; Hall, 1978).

A consistent factor found in many recent studies is the older age of parents of anorexics than for the general population as a whole (Bruch, 1978; Hall, 1978; Halmi, 1974, 1977). However, this may reflect the operation of social class since the members of the upper and upper middle classes tend to delay parenthood. Older parents may foster rigidity in family relationships and normative expectations. Separation-

individuation conflicts are likely to be more problematic in these families.

While marriages of the parents of anorexics appear to be stable, they may not be conflict free. The low prevalence of separation and divorce in patient families (Halmi, 1977) may also reflect a social class bias, where older cohorts in the upper classes would be less likely to divorce and less likely to approve of divorce, than others in the general population. All of these factors emphasize the need for large-scale prospective studies. Thus, the predominant demographic characteristics which have been clearly and repeatedly observed are that patient families tend to be from the upper social classes and their parents are often older than the average in the general population.

The involvement of genetic factors must be included in an examination of anorexia. Methods for determining the possibility of a genetic component in anorexia nervosa include: determining whether the disorder is more common in first degree relatives of the anorexic than would be expected by chance; concordance rates for monozygotic and dizygotic twins; comparisons of twins reared together and apart. Anorexia nervosa may occur in a mother and her child but is very rare (Ehrensing and Weitzman, 1970; Hall, 1978). However, some researchers have found a family history of underweight relatives

(Hall et al., 1983). Social class may be related to these results. A study by Halmi et al. (1978) found no difference between the weight of the patient and control parents in which the fathers of both groups were matched for age, level of education, occupation, and salary. Interestingly, a significant relationship was found between educational level and weight. This suggests that perhaps ritualistic and unusual eating behaviour is a more important factor than parental weight.

The occurrence of multiple cases within a single family has been found to be more common than mother-child occurrence (Dally, 1979; Hall, 1978) but this may imply a common environmental influence rather than an inherent predisposition. A lack of adoption studies is a factor in these scarce findings. Findings regarding the prevalence of anorexia nervosa in twins are tentative (see Appendix B). The zygosity is subject to error since it may have been determined by parental report and observation. Also, many co-twins were not followed-up beyond the age of risk (therefore they could be concordant). Keeping these sources of error in mind, the monozygotic rate suggests the possibility of genetic predisposition. Clearly, more studies of this nature must be carried out to permit more definitive results and interpretations. While each of these factors needs to be researched further, this study will be limited to

an assessment of predisposing cultural factors, attitudes regarding body weight, and socioeconomic status.

Familial Factors - Illness

Parental factors may strongly influence the development of eating disorders. Affective (mood) disorders appear to be over-represented in the parents of anorexics compared with the general population (Beaumont et al., 1978: Hall, 1978; Hudson et al. 1983; Strober et al., 1982). This may be a risk factor in the development of anorexia, either genetically or environmentally, or both. Alcoholism and other evidence of difficulties in self-control and discipline (i.e. continued smoking behaviour after repeated attempts to quit) have been documented in a number of studies (Beaumont et al., 1978; Hudson et al., 1983; Strober et al., 1982). The prevalence of physical illness, especially migraines and asthma, is also reported (Beaumont et al.,1978; Hall et al., 1983). This last factor may be an indication of parental responses to stress which may or may not be the result of having an anorexic child.

The Family as a Cultural Mediator

One of the most important of the familial functions is

the integration of the child into the culture. Undoubtedly, modern Western Culture has placed a strong emphasis on slimness and fashion which is an extension of more general pressures toward performance and perfection. This is illustrated by the statement of an anorexic patient who used the image, "If you are born the son of a king, then you are condemned to be very special - you, too, have to become a king" (Bruch 1978, p.26).

Historically, Lasegue (1873) was one of the first researchers to recognized the contribution of the family to the development/maintenance of anorexia nervosa. He emphasized that:

> The relatives and friends begin to regard the case as desperate. It must not cause surprise to find me thus always placing in parallel the morbid condition of the hysterical subject and the preoccupations of those who surround her. These two circumstances are intimately connected, and we should acquire an erroneous idea of the disease by confining ourselves to an examination of the patient... The moral medium amid which the patient lives exercises an influence which it would be equally regrettable to overlook or misunderstand (in Garfinkel and Garner, 1982, p.164).

While there are not controlled studies of these aspects of anorexic families, multiple characteristics have been reported in the literature. Weight and eating preoccupations are frequently cited (Beaumont et al., 1978; Bruch, 1978; Halmi, 1974; Selvini-Palazzoli, 1978). Some researchers have found an over-representation of anorexics' parents in the food and

nutrition industry or in the nurturant professions (Beaumont et al., 1978). Unfortunately, the study of familial factors has been, and remains, plagued with methodological shortcomings. Studies remain primarily retrospective. Due to practical restraints, the assessment of family illness and diet influence will be limited in the present study. Questions will be limited to self-report items presented in an informational questionnaire.

Olson's Circumplex Model - a link between Family Theory and Family Therapy.

The assessment of a family profile for the sample studied will be derived from an instrument which has its theoretical underpinnings in Olson's Circumplex Model (FACES II). The anorexia nervosa literature deals almost exclusively with family therapy rather than family theory; however, Olson's (1983) Circumplex Model can be connected with this research. Essentially, David Olson and his colleagues developed their model to reduce and integrate the vast amount of theoretical and therapeutic concepts used to describe family structure and dynamics. The essential components of this model are family cohesion, family adaptability, and family communication (a facilitating dimension). This framework is provided for describing types of couples and families.

The four levels of cohesion and four levels of

adaptability allow for a possible sixteen types of families. These can be reduced into three categories: Balanced, Mid-range, and Extreme. Balanced families are those which fall into the central levels of both cohesion and adaptability. Mid-range families are those which are extreme on one dimension. Extreme families are those which operate on the extreme levels of both dimensions.

Balanced families are assumed to have the greatest resources across the family life cycle; therefore, they are less vulnerable to stress and likely to deal effectively with stress when it occurs. Balanced families also have optimal flexibility enabling the use of various coping strategies. While balanced families generally operate at the optimal levels of both dimensions, they can move/change to different levels during crisis situations but return to a balance once the crisis is resolved. These factors combine to form a picture of higher levels of marital and family satisfaction.

Family cohesion is defined as the emotional bonding that family members have toward one another. Specific concepts used to measure this dimension include: emotional bonding; boundaries; coalitions; time; space; friends; decision making; and interests and recreation (p 48). The four levels of cohesion range from

disengaged (very low) to separated (low to moderate) to connected (moderate to high) to enmeshed (very high). It is assumed that the optimal or balanced levels of cohesion are separated or connected. This notion of balance refers to the most adequate family functioning.

The enmeshed system is an extreme system based on overidentification with the family. Family loyalty and consensus prevent the individuation of its members. Any attempt by a family member to be distinctive is perceived as threatening and potentially destructive to the family unit. The disengaged system is based on extreme individualism with limited attachment and commitment to the family unit. Both the enmeshed and disengaged systems are perceived as problematic, with these families being those most often found in treatment.

Family adaptability is defined as the ability of a marital or family system to change its power structure, role relationships, and relationship rules in response to situational and developmental stress. Concepts used to measure this dimension include: family power (assertiveness, control, discipline); negotiation styles; role relationships; and relationship rules in response to situational and developmental stress (p.62). The four levels of adaptability range from rigid (very low) to structured (low to moderate) to flexible

(moderate to high) to chaotic (very high). As with the cohesion dimension, the central levels of adaptability (structured and flexible) are assumed to show optimal functioning.

The rigid system is one which is incapable of adapting to stress, while the chaotic system is one which is out of control (i.e. changes where inappropriate). The adaptability dimension focuses on change within the family system. Systems theory previously focused on the tendency of families to emphasize rigidity to maintain the status quo (morphostasis). In the early and mid 1970's, theorists began to emphasize the importance of the ability to change (morphogenesis). The ultimate system blends morphostasis and morphogenesis in appropriate situations. Clinical populations of eating disordered individuals are assumed to be related to high perceived cohesion scores and low perceived adaptability scores (indicative of rigidly enmeshed systems).

Communication is considered as a facilitating dimension which provides for the movement of families along the other two dimensions. This dimension is not visually included in the model (see Appendix C), nor is it formally defined. Theoretically, positive communication skills including empathy, reflective listening, and supportive comments enable families to share their needs and concerns relating to the

cohesion/adaptability dimensions. These skills are characteristic of balanced families. Negative communication skills (double messages, double binds, criticism) promote stagnation on the cohesion/adaptability dimensions. While Olson's model deals with communication theoretically, it is not dealt with directly in application.

Olson believes that families with adolescents face unique challenges and stresses. He emphasizes that the adolescent's needs for independence account for only part of this stress. Another considerable portion of stress could be due to a lack of congruence between member perceptions of family issues and dynamics. The level of agreement between spouses was found to be low, but was higher than parent-adolescent agreement (p.221). Olson believes that at this stage, the importance of family resources is the most visible. Balanced families were found to function the best, especially in their use of positive communication skills and reframing to cope with stressful situations (p.226).

Olson identified two internal family coping strategies: reframing and passive appraisal. In the passive appraisal strategy, the stressor is defined as something that will take care of itself over time. Reframing defines the stressor event as a "challenge" that can be overcome. Unfortunately, Olson found that

high-stress families with adolescents typically emphasize passive appraisal as a major coping strategy (pp. 210-212).

Both family theorists and family therapists are interested in the dimensions of cohesion and adaptability. The main divisions between these bodies of knowledge are two-fold. The therapist makes critical use of the communication dimension and tries to develop positive skills for both the individual members and the family system. Secondly, Olson focuses on "normal" families (at stages of the family life cycle), not clinical families.

Unfortunately, there have been few attempts within the anorexia nervosa literature to integrate or conceptually clarify these dimensions. Exceptions to this conclusion are the treatment efforts of Selvini-Palazzoli and Minuchin.

Treatment Models

Generally, the first psychodynamic theories of the parent-child relationship centered on the dominant mother - passive father stereotype. Fixation of the anorexic at the oral level of psychosexual development and anorexia as a defense against instinctual drives were interpretations commonly cited. The central focus

was upon the displacement of sexual fears by the replacement of concerns about body size.

These theories tend to center on a single aspect of the disorder, namely, the fear of weight gain. Therapy emphasizes interpretation and insight without specific attention to weight. This method has the poorest outcome record of any approach (Bruch, 1973; Dally, 1979; Neuman & Halvorson, 1983; Selvini-Palazzoli, 1978).

More recent psychodynamic theories emphasize early object relations (Bruch, 1973; Selvini-Palazzoli, 1978). Bruch defines anorexia nervosa as developing out of distortions of body image, internal perception, and a sense of ineffectiveness. Self-mastery and autonomy are pursued through self-control over one's body. Parental demands toward appearance, behaviour, and achievement exacerbate the search for autonomy and self-mastery. Bruch argues that distortions of internal perceptions are a result of early maternal apathy and neglect in external responses to the child's needs and demands. The child's perception of a lack of self-control results when "such a child does not feel she is living her own life, but feels deprived of inner guideposts, helpless under the influence of internal urges and external commands, and like being the property of her parents" (1973, p.107). Anorexia is also postulated as a

response "to the enormous emphasis that Fashion places on slimness" and to the greater freedom and ambiguity of modern female roles.

Selvini-Palazzoli (1978) also emphasizes the anorexic's helplessness of the ego. The anorexic perceives her body as a threat which must be controlled. Palazzoli states that the anorexic experiences her body as the "maternal object, from which the ego wishes to separate itself at all costs" (p.90). The mother is conceptualized as an authority figure who rewards compliance to her wishes, is overprotective, and is unable to allow the child to separate and achieve a degree of autonomy.

Within a systemic model, Selvini-Palazzoli and Minuchin believe that family relationships are closely linked to the development and maintenance of anorexia nervosa in children. They also believe that the illness plays a role in maintaining the family homeostasis. The Milan team (Selvini-Palazzoli et al., 1978) have identified certain predominant characteristics of families with an anorexic child. Initially, the anorexic child's dieting behaviour seems to begin due to current fashion trends. It is begun with her parents' approval. The child's realization of her parents' reaction informs her of the power acquired by restricting her food intake. Perceived power over

others leads to an escalation of dieting behaviour. The family is disturbed by (and involved in) the pathological situation but insists that the home environment is "normal" and that the patient is the "problematic" factor. Selvini-Palazzoli asserts that this situation is a kind of "folie a deux ou a plusieurs"(p.19). This term has been used primarily to describe families of schizophrenics.

Excessive self-control is exhibited in regard to eating as a method of preserving personal identity. In this context, anorexia nervosa has been called "an existential problem by a human being who sees no other means of realizing himself, of being-in-the-world, than starvation and emaciation" (p.133). Selvini-Palazzoli emphasizes two negative features that contribute to symptom manifestation. Firstly, the anorexic's unusual sensitivity to the modern cultural demand that young women play a highly ambiguous role (similar to the views of Boskind-Lodahl, 1976, 1977). Secondly, the anorexic's interpersonal familial relationships are characterized by the others' excessive domination to which she responds with passive compliance. Anorexic girls are different from non-anorexics because they face the separation-individuation tasks of adolescence alone. A restricted home life, an extreme attachment to the mother, a lack of friends, and fears of life in general

(stemming from fears of a lack of self-control) all lead to an expression of power which is simultaneously with and against their own bodies.

Minuchin believes that anorexic family relationships occur within an "enmeshed" system where family members intrude on each others' thoughts and feelings. Overprotection within these families leads to the parents' preoccupation with the anorexic child's behaviour. In turn, this leads to the child becoming even more conscious of herself and others' expectations. Overprotectiveness is not limited towards the anorexic or the manifestations of the syndrome. The children also feel protective toward the family. Rigidity is an additional feature of these families and lack of conflict resolution is presumed to be a major part of the transactional style. These systemic approaches argue that eating disorders are an interpersonal problem which must be treated through the total family system.

Garner and Garfinkel (1982) have proposed a multidimensional approach which integrates these existing approaches (Bruch, Crisp, Minuchin, Russell, Palazzoli) with approaches that they have found useful in the treatment of anorexics. These researchers present a balanced view whereby:

> Cultural influences do not in a precise way cause serious eating disorders like bulimia and anorexia nervosa. Culture is mediated by the individual as well as the immediate social context of the family.

> Both individual and family characteristics may be either predisposing or protecting for any particular disorder (Garner et al., 1983, p. 79).

Swartz et al., (1983) have also proposed a multidimensional model which attempts to predict those at high risk for developing anorexia nervosa. Two extremes on a continuum are presented. At one end are those whose life adjustment is based on constitutional/early development trauma. These individuals are regarded as the more "traditional" anorexics who develop the disorder regardless of cultural attitudes toward food, eating, body size, and weight. At the other end are those individuals whose adjustment is dependent on cultural forces. These individuals are hypothesized to account for the rising incidence of anorexia nervosa and other eating disorders.

Psychological Variables

Recent literature contains an attempt to target high risk populations. This has been primarily through the construction of scales such as the Eating Attitudes Test (EAT) by Garner and Garfinkel, the Crown Crisp Experiential Index by Crisp, and Szumbler's Parental Expressed Emotion (EE). In addition, Hall and Walkey (1983) have devised a "Food Fitness and Looks" questionnaire which provides for the documentation of

family factors and attitudes in non-patient families in comparison with those of patient families. Thus the basic measurement tools are available for use in a prospective study.

The EAT scale and similar scales have been used in conjunction with other psychological assessment tools in an attempt at the early recognition of anorexia nervosa. Tests have been used with anorexics and bulimics in descriptive studies, comparison studies, outcome studies and as screening devices. Different types of eating disorders have also been examined and associated with various psychological profiles. Anorexic patients have been described as manifesting a variety of personality disorders and personality organization (Bram, Eger and Halmi, 1982). Those patients with a history of binging and vomiting tend to meet the diagnostic criteria for borderline personality disorder. Strober's (1980) assessment of personality and psychopathological symptoms categorizes the anorexic in terms of an obsessional character who is introverted and insecure, highly conformist and industrious. Strober found that normalization of weight was associated with increased extroversion but greater self-doubt.

The use of diagnostic personality inventories has led to the conclusion that anorexics may have extremely poor personality integration. A comparison of anorexic and

schizophrenic MMPI profiles showed no significant differences on any of the validity or clinical scales (Small et al., 1984). Common characteristics included character, neurotic, psychotic and psychosomatic disorders. Norman and Herzog (1983) analyzed MMPI profiles of restricting anorexics, bulimic anorexics, and normal weight bulimics. They found depression as the highest scale for the anorexic groups with the bulimic groups being the most depressed. Cantwell et al., (1977) have noticed the high incidence of depression in premorbid and postmorbid anorexics as well as at the time of follow-up. A family history of affective disorder was commonly found in the mothers of these patients. Generally anorexics consistently have been reported as having high levels of personal disturbance, introversion, depression and obsessiveness. Neurotic tendencies, anxieties and somatic complaints have also been indicated.

While these studies are helpful, it is problematic to infer premorbid personality functions from an assessment after the onset of an eating disorder. A series of experiments conducted at the University of Minnesota and various vitamin deficiency studies suggest that starvation and dietary distress may result in marked, but temporary, personality changes. (Keys et al., 1950; Kinsman et al., 1971; Sterner et al., 1973; Watson,

1957; Weinberg et al., 1979). Therefore, studies of clinical populations need to be accompanied by studies of subclinical and nonclinical groups. The present study is offered in this latter view. One of the few studies taking these subclinical and nonclinical comparisons into account reports that certain characteristics, such as the needs for achievement and approval, are found more often in patients with secondary amenorrhea versus healthy subjects (Weeda-Mannak et al., 1978). Moreover, only full-blown anorexic patients showed a high fear of failure which is consistent with the belief that anorexia is a distinct disorder which differs from other and milder eating disorders. These results may suggest that differences in behaviour and weight loss may occur gradually with secondary amenorrhea as a significant diagnostic aid in early identification.

Criticisms of the use of self-report measures suggest that the denial of illness in anorexia nervosa patients may be detrimental to assessment. Vanderdeycken and Vanderlinden (1983) divided anorexic patients into "admitters" and "deniers" on the EAT scale. The "deniers" tended to be more self-defensive and socially extroverted with less pathological profiles than the "admitters". While self-report measures may indeed underestimate the incidence of eating disorders, they

are certainly useful in the identification of problematic eating behaviours. Perhaps the most significant problem is that of an inconsistency in the use of specific diagnostic criteria which stems from the lack of a vigorous and definitive definition of the syndrome. Criteria should include measures of nutritional status, eating difficulties, menstrual function, psychiatric status, psychosexual and psychological adjustment. This study will rely on the use of the Eating Attitude Test in conjunction with the Ipat Anxiety Questionnaire with a nonclinical population in order to validate these instruments as screening devices.

Activity and Starvation - At Risk Populations

In addition to identifying clusters of behavioral and attitudinal characteristics that may be indicative of disturbed eating, this research attempts to establish a relationship between exercise and vulnerability to eating disorders. Activity level has been cited to account for 38% to 75% of anorexia nervosa cases (Crisp, Hsu, Harding and Hartshorn, 1980; King, 1963; Kron, Katz, Gorzynski and Weiner, 1978). Various explanations have been given to account for this level of excessive activity. Bruch (1973) suggests that activity produces a sense of control and is a part of the anorexic's drive

toward perfection. Garner and Garfinkel (1980) believe that the cultural emphasis on "participaction" may be partially accountable for the increase in anorexic cases and their excessive activity level. Johnson (1985) believes that inquiring into the anorexic's feelings around the absence of exercise offers information of its adaptive function. Exercise has been found to serve as a defense against depression, self-punishment, a goal-oriented pursuit of achievement, or for regulating tension resulting from anxiety or anger.

Others argue that the opportunity to engage in locomotor activity interacts with food schedule to produce starvation in animals and some humans (Epling and Pierce, in press). Strenuous activity suppresses appetite and leads to a decline in body weight, which in turn leads to a highly motivating escalation of exercise. Cultural influences regarding diet and exercise initiate this self-perpetuating cycle which is resistant to change. Ballet dancers/students provide an accessible group of strenuous exercisers. Monitoring their level of activity as well as their degree of acceptance of cultural influences is attempted in this study to clarify and relate this research to earlier research.

According to Garner and Garfinkel (1982) anorexics' behaviour is directly related to the biological effects

of starvation because "starving people may also tend to feel more hungry after they've eaten which will exacerbate the anorexic's fears of loss of control concerning food" (p.206). Loss of concentration, indecisiveness, sleep disturbances and mood swings are also common behaviours. Thus, the process of starvation facilitates and perpetuates an apparent split between mind and body.

Using the Eating Attitudes Test (EAT) which targets behaviours and attitudes related to anorexia, a group of dancers was found to have marked food/weight concerns that were ten times the expected prevalence of the disorder. Garfinkel (1981) suggests that this implies the importance of cultural pressure within this population as consistent with a disturbance of body image perception in anorexia nervosa. The prolonged disturbance of body image and the presence of bulimia is related to poor prognosis. Therefore, the sample of dancers for this study is expected to have a higher incidence of symptomatic eating attitudes than the general population with accompanying cultural pressure and disturbed body image.

Garner and Garfinkel's (1982) research with the EAT reports that 12% of University students scored 30 or greater versus 38% of ballet dancers also studied. Ballet dancers exhibit many characteristics which are

hypothesized to be related to anorexia nervosa. Most possess an elevated need to achieve perfection, fear of fatness, body image concerns, dieting, and high levels of activity. Previous research (Garner and Garfinkel, 1980) reports that 6.5% of a sample of Canadian adolescent ballet students have had anorexia nervosa. Garner and Garfinkel (1980) have further suggested that competitive level may be a factor in the occurrence of eating disorders. They found that the incidence of anorexia nervosa was approximately 4% more frequent in more competitive settings. While competitive level is not directly assessed in this study, it is assumed that the older dance students preparing for careers are the most competitive. Recently, Hamilton et al., (1985) surveyed black and white professional ballet dancers in America and Europe. Using the EAT-26, they found that self-reported anorexics had higher scores on the scale, lower body weights, and manifested more psychopathology and poorer body image than the non-anorexics. These researchers conclude that anorexic dancers differ from dancers with no eating disorder and that level of competition is related to reported anorexia nervosa, while ethnicity is related to both anorexia nervosa and bulimia.

Interestingly, all cases of anorexia nervosa were found in national, rather than regional companies, which

required more hours of exercise per week and had more rigid standards for thinness. Hamilton et al., (1985) conclude that it is uncertain whether selection factors, or socialization after entrance into a competitive setting, account for such psychological profiles. This study does not involve a focus on causal factors; rather, it involves an attempt at explaining prevalent patterns.

Overall, it appears that many interacting predisposing factors play a role in the development of anorexia nervosa. The timing of these factors is also pivotal to the development of this disorder. The increased risk for the development of anorexia in groups where dieting and weight control are a career requirement, is cited as evidence for this assumption (Garner et al., 1983). It is suggested that both individual and family characteristics are mediators of these influences.

Chapter III

Research Design and Methodology

The following chapter contains a description of the sample, measurement instruments, and an overview of the data collection procedures used in this study. Research questions and hypotheses are stated; and, data analysis procedures are briefly mentioned.

Data Gathering Procedure

Subjects were selected from a number of ballet/dance studios within the city of Edmonton, Alberta. As this research was interested solely in the eating attitudes of female dancers, only females were solicited. To increase the variance of the sample subjects between the ages of 13-20 were chosen from three different dance studios who offered to participate.

Participation was solicited by an initial telephone contact in June of 1987. At this time, many of the dance studios were preparing for annual examinations and recitals before closing for the summer, thus subject availability was limited. The dance studios that did participate were similar in that they offer training in all levels of dance from beginner to advanced/ professional. Dancers are prepared for examinations,

performances, competitions, and possibly professional careers in the dance world.

One hundred and thirty packets containing a four-part questionnaire were distributed to the three dance studios. Subjects were told the researcher was studying diet habits, weight maintenance and physical activity to accurately portray the life-style of ballet dancers (see Appendix D). They were also informed that the researcher had also had extensive dance training. Subjects were asked to complete the four questionnaires and return them in the envelope provided within two weeks of receiving the questionnaire. The option of returning the questionnaire to the dance studio or mailing directly to the researcher was given in hopes of increasing the return rate. Personal contact was made with the subjects at two of the three dance studios on the initial delivery of the questionnaires. At this time the researcher was introduced to various dance classes and allowed to explain the purpose of her research. Subjects were told that they could contact the researcher if they had any questions or concerns. This same information was provided in an introductory letter in the questionnaire packets.

Of the 130 packets distributed 59 were returned to the researcher. However, of the 59 returned, 1 was completed twice, 2 were completed by subjects over 20 years of

age, and 1 did not have the majority of questions answered. Therefore, the final analysis was based on 55 returns or 42%. It should be noted that a few days after the delivery of the 130 packets, a rotating national mail strike took effect for approximately one week. Thus most of the returns were received almost immediately and it is this researcher's opinion that a much higher return rate could have been possible had the strike not occurred. However, it has been suggested that a 40-50 percent return on mailed questionnaires is considered a good return (Warwick and Lininger, 1975 in Lehman and Mehrens, 1979). In the sample (see Table I) the mean age was 14.4 years (range from 13 to 19).

Instruments of Measurement

Each packet consisted of four questionnaires to be discussed:

A. Demographic Questionnaire (in Appendix D).

B. Eating Attitudes Test (EAT).

C. Ipat Anxiety Scale Questionnaire (IPAT/ASQ).

D. Faces II - Family Adaptability and Cohesion Evaluation Scales.

Demographic Questionnaire

The Demographic Questionnaire was constructed to gather information regarding the dancer's age, height,

weight, parent's occupation, dieting behaviour, attitudes toward weight, hours of participation in physical activity, and major life changes (see Appendix D). This questionnaire was constructed partially from questionnaires used by other researchers and partially by extracting variables repeatedly stressed in the literature. The information obtained from the demographic questionnaire was used to compare the subjects' profiles in order to ascertain whether subjects at-risk for developing eating disorders may have different demographic profiles. A summary of the demographic data appears in Tables I, II, III, IV.

Table I

Frequency Distribution of Age for 55 Ballet Students

Age	Frequency	Percent	Cum Percent
13	15	27.3	27.3
14	19	34.5	61.8
15	12	21.8	83.6
16	5	9.1	92.7
17	2	3.6	96.4
18	1	1.8	98.2
19	1	1.8	100.0
TOTAL	55	100.0	

MEAN	14.400	MEDIAN	14.000	STD.DEV.	1.342

Table II

Frequency Distribution of Father's Occupation (Blishen Scale) for 55 Ballet Students.

Occupational Rank	Frequency	Percent	Valid Percent	Cum Percent
1	1	1.8	2.0	2.0
6	3	5.5	6.0	8.0
9	4	7.3	8.0	16.0
10	4	7.3	8.0	24.0
11	1	1.8	2.0	26.0
18	1	1.8	2.0	28.0
19	2	3.6	4.0	32.0
28	1	1.8	2.0	34.0
37	1	1.8	2.0	36.0
38	3	5.5	6.0	42.0
53	1	1.8	2.0	44.0
56	1	1.8	2.0	46.0
62	2	3.6	4.0	50.0
64	1	1.8	2.0	52.0
74	1	1.8	2.0	54.0
78	1	1.8	2.0	56.0
81	2	3.6	4.0	60.0
101	1	1.8	2.0	62.0
120	3	5.5	6.0	68.0

(table continues)

Occupational Rank	Frequency	Percent	Valid Percent	Cum Percent
131	1	1.8	2.0	70.0
137	1	1.8	2.0	72.0
148	1	1.8	2.0	74.0
156	2	3.6	4.0	78.0
170	1	1.8	2.0	80.0
178	1	1.8	2.0	82.0
208	4	7.3	8.0	90.0
227	1	1.8	2.0	92.0
302	1	1.8	2.0	94.0
312	1	1.8	2.0	96.0
324	2	3.6	4.0	100.0
	5	9.1	MISSING	
TOTAL	55	100.0	100.0	

MEAN 96.200 MEDIAN 63.000 STD.DEV. 93.868

Table III

Frequency Distribution of Height for 55 Ballet Students

Height*	Frequency	Percent	Valid Percent	Cum Percent
4.8	1	1.8	1.9	1.9
5.0	3	5.5	5.8	7.7
5.1	2	3.6	3.8	11.5
5.2	2	3.6	3.8	15.4
5.3	8	14.5	15.4	30.8
5.4	11	20.0	21.2	51.9
5.5	11	20.0	21.2	73.1
5.6	3	5.5	5.8	78.8
5.7	6	10.9	11.5	90.4
5.8	2	3.6	3.8	94.2
5.9	3	5.5	5.8	100.0
	3	5.5	MISSING	
TOTAL	55	100.0	100.0	

MEAN 5.4423 MEDIAN 5.4000 STD.DEV. 0.2396

*"4.8" refers to 4 feet, 8 inches, etc.

Table IV

Frequency Distribution of Weight for 55 Ballet Students

Weight (lbs)	Frequency	Percent	Valid Percent	Cum Percent
85	1	1.8	1.9	1.9
89	1	1.8	1.9	3.8
90	1	1.8	1.9	5.8
95	2	3.6	3.8	9.6
98	2	3.6	3.8	13.5
100	3	5.5	5.8	19.2
101	1	1.8	1.9	21.2
102	1	1.8	1.9	23.1
103	2	3.6	3.8	26.9
104	2	3.6	3.8	30.8
105	3	5.5	5.8	36.5
106	1	1.8	1.9	38.5
107	1	1.8	1.9	40.4
108	4	7.3	7.7	48.1
110	3	5.5	5.8	53.8
112	1	1.8	1.9	55.8
114	1	1.8	1.9	57.7
115	3	5.5	5.8	63.5
118	1	1.8	1.9	65.4

(table continues)

Weight (lbs)	Frequency	Percent	Valid Percent	Cum Percent
120	9	16.4	17.3	82.7
121	1	1.8	1.9	84.6
124	1	1.8	1.9	86.5
125	2	3.6	3.8	90.4
127	1	1.8	1.9	92.3
130	1	1.8	1.9	94.2
133	1	1.8	1.9	96.2
135	1	1.8	1.9	98.1
140	1	1.8	1.9	100.0
	3	5.5	MISSING	
TOTAL	55	100.0	100.0	

MEAN 111.269 MEDIAN 110.000 STD.DEV. 12.062

Eating Attitudes Test

The Eating Attitudes Test (EAT) (not appended due to copyright restrictions) is a 40-item measure of the symptoms in anorexia nervosa. Developed in 1979 by Garner and Garfinkel, the EAT is presented as a 6-point, forced choice, self-report format which is easily administered and scored. Each extreme response in the "anorexic" direction is scored as a 3, while the

adjacent alternatives are weighted as 2 points and 1 point respectively.

Garner and Garfinkel (1979) report that the validation of the EAT scale was carried out using two independent groups of female anorexia nervosa patients and female control subjects. Anorexic subjects met the criteria for primary anorexia nervosa according to Feighner et al. (1972). The control group largely consisted of University students of equivalent socioeconomic levels as the anorexic patients. Results were consistent across these 2 independent samples with both groups of anorexia nervosa patients scoring significantly higher on individual items than the control group. Initially, an overall validity coefficient of .72 was obtained by correlating the total EAT score with group membership. On the second revision of the EAT, the validity coefficient increased to .87 suggesting that the test is a good predictor of group membership (Garner and Garfinkel, 1979).

Some overlap in EAT scores was reported between the anorexic and control groups. Thus, a minimum cut-off score of 30 was chosen to eliminate "false negatives" for anorexia nervosa and to allow a "false positive" rate or identification of normal subjects with eating concerns comparable to those in the anorexia nervosa patient group (Garner and Garfinkel, 1979).

The reported alpha reliability coefficient of internal consistency obtained for the sample of anorexia nervosa subjects was .79 while for the pooled sample of anorexic and control subjects the coefficient was .94. Garner and Garfinkel (1979) suggest that the EAT demonstrates a high degree of internal consistency considering the relatively small number of items involved.

Discriminant validity was demonstrated by correlating the EAT with other measures such as the Restraint Scale, weight fluctuations, and the extraversion and neuroticism scales of the Eyseneck Personality Inventory. Low correlations of .28, .17, .30, and .10 suggest that the EAT measures specific symptoms found more often in an anorexic population. Thus the EAT is perceived as a valuable screening instrument for use with high-risk groups in detecting previously undiagnosed cases of anorexia nervosa. In addition, it has been suggested that the EAT is also sensitive to clinical remission (Garner and Garfinkel, 1979).

IPAT Anxiety Scale Questionnaire

The Ipat Anxiety Scale Questionnaire (ASQ) (not appended due to copyright restrictions) devised by Cattell in 1957, is a self-administering scale consisting of 40 self-description items. The scale was devised for use with ages of 14 years to adulthood.

Each question has three possible answers. Cattell's underlying assumption in the construction of the scale is that human personality is basically a series of traits which possess a certain degree of reality or invariance.

The 1957 version of the test included the best 40 items derived by factor analysis from several thousand personality items. Average factor pattern coefficients point to the dominant role of apprehension and tension in the anxiety pattern. Other important factors involved in anxiety include factors of emotional instability, suspiciousness, and lack of self-control (Cattell, 1963, 1976). The number of items per anxiety component was made proportional to that component's importance in the anxiety pattern. Items were divided further into those less obvious and those which manifestly refer to anxiety and anxiety symptoms. Separate scores measuring the respective covert and overt anxiety as well as a total anxiety score may be derived from the test.

In 1976 test items were "updated to adjust for language changes which had taken place since publication". Experimental comparisons of the old and new formats were conducted to ensure that the changes had no impact on the existing norm tables (Cattell, 1976). The manual designates a sten score of 4, 5, 6 or

7 as indicative of an average level of anxiety. Scores of 1, 2, or 3 are found in unusually relaxed, secure individuals. A score of 8 indicates an individual whose anxiety level would be getting serious and scores of 9 or 10 are to be expected in only about 1 in 20 cases. Norms are provided for normal adults, college students, and high school students which constitute close to 3,000 cases. College and teenage norms differ from the general adult population norms because of age trends in anxiety.

A test-retest reliability coefficient of .60 has been reported for a sample of 170 medical students over a two-year period. When this value is corrected due to the restricted range of anxiety scores it increases to .70. Reliability of the total ASQ score is reported to be .86 with overt and covert score reliabilities of .80 and .77 respectively.

The validity of the Ipat Anxiety Scale has been approached in three different ways. First, the total ASQ score was correlated with other measures of anxiety as well as traits unrelated to anxiety and the results were factor analyzed. A correlation averaging .90 was reached across samples differing with respect to age, sex, education, and culture. Lanyon (1978) reports an average correlation of .70 with the Taylor Anxiety Scale as well as an average correlation of .73 with the

Maudsley and Eysenck Neuroticism Scale (in Buros, 1978, p. 582).

Correlations between the ASQ and clinical ratings of anxiety range from .17 - .95. Finally, correlations between the ASQ and other anxiety scales range from .54 - .82. These studies suggest that the ASQ is a valid and useful instrument. Indeed Cohen has stated that the IPAT ASQ is a "mature fruit of a third of a century of both methodologically and clinically sophisticated large scale factor-analytic research . . . for a quick measure of anxiety level . . . for screening purposes, it has no peer" (in Buros, 1965, pp. 121-122).

FACES II - Family Adaptability and Cohesion Evaluation Scales

FACES was devised in 1978 by Portner and Bell. Originally, FACES was an 111 item self-report scale which was specifically constructed to measure the dimensions of cohesion and adaptability as defined by Olson's Circumplex Model (1979), 1980, and 1982). FACES II (not appended due to copyright restrictions), a modification of the original FACES, was developed in 1982 to empirically test the Circumplex Model. FACES II is a shorter instrument with simpler sentences than the original FACES which facilitates its use with children and those of limited reading ability. The number of

double negatives was reduced and the concept of individual autonomy was dropped from the cohesion dimension.

As previously discussed, the conceptual clustering of concepts from family theory and family therapy literature revealed two central dimensions of family behaviour: cohesion and adaptability. These dimensions were integrated into the Circumplex Model (Olson et al. 1979, 1980, 1982). Family cohesion is defined as the emotional bonding that members have toward one another. Cohesion is measured by the degree of emotional bonding, boundaries, coalitions and other concepts. Family adaptability is defined as the ability of the system to change its power structure, role relationships, and relationship rules in response to situational and developmental stresses. Adaptability is assessed by assertiveness, control, negotiation style, etc.

Basically, there are four levels of cohesion and four levels of adaptability ranging from extremely low to extremely high. For each dimension the balanced levels are hypothesized as optimal for healthy family functioning. The extreme levels are thought to be dysfunctional for systems over time. Sixteen types of systems are identified by combining the levels of both cohesion and adaptability. Four of the sixteen types are balanced (optimal) on both dimensions. Eight types

are mid-range meaning that they are extreme on one dimension and moderate on the other. Finally, four types are extreme on both dimensions.

FACES II enables each family member to describe how they perceive their family and ideally how they would like it to be. A comparison of the perceived and the ideal allows for an assessment of the present level of satisfaction within the system. This is relevant in view of Olson's revision to his original model (Olson et al. 1980, 1982) which states that extreme family types can function well as long as all family members are satisfied.

In the initial development of FACES II in 1981, 464 adults responded to 90 items. After factor analysis and reliability analysis, the total scale was reduced. The final 30-item scale consists of 16 cohesion items and 14 adaptability items. On the cohesion dimension there are two items for each of the following: emotional bonding, family boundaries, coalitions, time, space, friends, decision-making, and interests and recreation. There are 2 - 3 items for each of the concepts related to adaptability including: assertiveness, leadership, discipline, negotiation, roles and rules. Items are presented as short phrases. Subjects are directed to respond on a 5-point scale from 1 (almost never) to 5 (almost always). Scoring is simple and can be done

directly on the answer sheet. Internal consistency or alpha reliability for the total sample of 2,412 is reported at .90 for the total scale with reliabilities of .87 for cohesion and .78 for adaptability. Test-retest reliability for the total scale is .84.

Studies by various researchers (Russell, 1979; Sprenkle and Olson, 1978) suggest support for the assumption that high functioning families have moderate scores on both cohesion and adaptability dimensions while low functioning families have extreme scores on these two dimensions. Findings indicate that families within the normal range can be distinguished on family cohesion and adaptability (Russell, 1979).

Research Questions

This study was primarily descriptive and exploratory in nature and was designed to explore the following questions:

1. What is the relationship between eating attitudes (EAT) and scores on the IPAT Anxiety Scale?
2. What is the relationship between eating attitudes (EAT) and subscale scores on the FACES II family profile?
3. Is there a significant difference between high and low scorers on the Eating Attitudes Test (EAT), and mean scores on the Ipat Anxiety Scale?

4. Is there a significant difference between high and low scorers on the Eating Attitudes Test (EAT), and mean scores on the FACES II family profile?

5. Is there a significant difference between high and low scorers on the Eating Attitudes Test (EAT) and various demographic variables supported by previous research?

Hypotheses

The following hypotheses were formulated from the above research questions.

1. The greater the incidence of symptomatic attitudes toward eating as measured by the Eating Attitudes Test (EAT), the more likely the individual will score high on the anxiety measures of the Ipat Anxiety Scale.

2. The greater the incidence of symptomatic attitudes toward eating as measured by the Eating Attitudes Test (EAT), the more likely the individual will perceive her family profile (FACES II) to be in the extreme range of cohesion and/or adaptability.

3. There will be a significant correlation between the means of high versus low scorers on the EAT and the total score on the Ipat Anxiety Scale.
4. There will be a significant correlation between the means of high versus low scorers on the EAT and extreme versus balanced family types on the FACES II family profile.
5. Those individuals at-risk for the development of anorexia nervosa as defined by high scores on the EAT are likely to have a different demographic profile than those individuals who are not at-risk.

Delimitations of the Study

This study was exploratory in nature and focused upon a group of female ballet dancers/students from three different dance studios within the city of Edmonton, Alberta. The subjects were included via their willingness to participate and were surveyed by the use of a questionnaire. Minimal personal contact was made with a large majority of the subjects to the extent that the researcher was introduced to some dance classes and was allowed to explain her research. No further contact was made with the subjects and no follow-up was made. The findings are based on a 42% return rate.

Limitations of the Sample

The major limitation of this study concerns the small percentage of returns which generally plagues all direct-mail surveys. However, the return rate of 42% on this study supported by Travers (1969) and Warwick and Lininger (1975) (in Lehman and Mehrens, 1979) suggests an acceptable level of returns for such a study. It is also important to stress that dysfunctional attitudes toward eating and/or anorexic behaviour typically involve secrecy and denial of a problem. Questions dealing with anxiety and family concerns also deal with personal issues. Therefore, many subjects may have been reluctant to participate in the survey or answer questions accurately.

Evaluation of Raw Data

A correlation matrix of total Eating Attitudes Test scores with individual scores on the Demographic Questionnaire, and with individual subscales on the IPAT Anxiety Scale Questionnaire and the FACES II - Family Adaptability and Cohesion Evaluation Scales was done using the Pearson Product Moment correlation on the entire sample. To determine whether high and low scorers on the Eating Attitudes Test differed on their profiles on the IPAT Anxiety Questionnaire and the FACES II Scale, analysis of variance tests were used to

compare high and low scoring groups with scores from both questionnaires. For comparisons of these measures with high and low scorers on the EAT, total EAT scores were collapsed into 3 groups: Low, Medium, and High. Low and High scorers are the lowest 20% and highest 20% of the total sample. Family type (Balanced, Extreme, Mid-range) was assessed by the perceived cohesion and adaptability scores of all subjects. A chi-square (cross- tabulation) statistic was computed to compare EAT group scores and categories of family type. Finally, a number of chi-square statistics were calculated to compare groups of EAT scores (Low, Medium and High) and scores derived from the Demographic Questionnaire. Criterion significance was set at .05, but where results revealed near .05 confidence and under .10, the findings are reported as significant trends. Tables are used for illustrations of relevant demographic data. Further explanation of relevant data analysis is presented in Chapter IV.

Chapter IV

Findings

The findings are reported in the following format: the hypotheses have been restated, then a description of statistical calculations and pertinent tables are offered. Conclusions involving statements as to the acceptance or rejection of the hypothesis follow the analysis discussion. Conclusions dealing with ancillary findings, as revealed by additional calculations, will also be discussed.

Hypothesis 1

The greater the incidence of symptomatic attitudes toward eating as measured by the Eating Attitudes Test (EAT), the more likely the individual will score high on the anxiety measures of the Ipat Anxiety Scale.

Analysis

Pearson Product Moment correlations (see Table V) were calculated between the total Eating Attitude scores and the subscale and total scores of the Ipat Anxiety Scale (covert anxiety, overt anxiety, and total anxiety). The obtained value for the correlation between the Eating Attitude scores and covert anxiety was significant at

the .05 level (.33, p = .007). The obtained value for the correlation between Eating Attitude Scores and total anxiety was near the .05 level (.21, p = .062). However, significance could have been reached at a less powerful alpha level (i.e., .10). The remaining overt anxiety score was not significant at the .05 level.

Table V

Pearson Product Moment Correlations

Eating Attitudes Test (Symptomatic Attitudes) with Ipat Anxiety Scale for 55 Ballet Students

	EAT	p =
Covert anxiety	.328	.007*
Overt anxiety	.084	.271
Total anxiety	.210	.062

*significant

Conclusion

Hypothesis 1 is not supported. However, a relationship and relationship trends were found between two of the three measures of anxiety and eating attitudes. These results contain support that the

sample of dancers for this study, who exhibit symptomatic eating attitudes, do experience higher levels of covert or latent anxiety and total anxiety.

Hypothesis 2

The greater the incidence of symptomatic attitudes toward eating as measured by the Eating Attitudes Test (EAT), the more likely the individual will perceive her family profile (FACES II) to be in the extreme range of cohesion and/or adaptability.

Analysis

A one-way analysis of variance (see Table VI) was performed comparing the total Eating Attitude scores and Balanced, Extreme, or Mid-Range family type (assessed by perceived cohesion and adaptability scores of all subjects). No two groups were significant at the .05 level.

Conclusion

Therefore, hypothesis 2 is not supported. No relationship was found between EAT scores and the three categories of family types as measured by FACES II. These results are evidence that the sample of dancers for this study, who exhibit symptomatic eating attitudes, do not perceive their respective family

Table VI

Analysis of Variance
Eating Attitudes Test by Family Type of FACES II for 55 Ballet Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob
Between Groups	2	210.1408	105.0704	.4698	.6278
Within Groups	50	11181.7837	223.6357		
Total	52	11391.9245			

Group	Count	Mean	Std. Dev.	Std. Error	Minimum	Maximum	95% Conf. Int for Mean
Grp 1	19	19.3684	17.1277	3.9294	3.0000	66.0000	11.1132 to 27.6237
Grp 2	13	24.3846	11.3544	3.1492	9.0000	45.0000	17.5232 to 31.2460
Grp 3	21	20.2857	14.7551	3.2198	3.0000	64.0000	13.5693 to 27.0022
TOTAL	53	20.9623	14.8012	2.0331	3.0000	66.0000	16.8825 TO 25.0420

Multiple Range Test

Scheffe Procedure

Ranges for the 0.052 level -3.54 3.54

No two groups are statistically different at the 0.052 level

profile within the extreme range of cohesion and adaptability.

Hypothesis 3

There will be a relationship between the means of high versus low scorers on the EAT and the total score on the Ipat Anxiety Scale.

Analysis

For comparisons of the various measures between high and low scorers on the EAT, total scores were collapsed into 3 groups: Low, Medium, and High. Low and High scorers constitute the lowest 20% and top 20% of the total sample. A one-way analysis of variance (see Table VII) was performed comparing these group Eating Attitude scores and the total anxiety score on the Ipat Anxiety Scale. No two groups were significant at the .05 level. However, significance could have been reached at a less powerful level of significance (F prob = .0516).

Conclusion

Therefore, hypothesis 3 is not supported. However, significant data trends were found between groups of EAT scores and the total anxiety score as measured by the Ipat Anxiety Scale. Therefore, a trend toward anxiety

Table VII

Analysis of Variance
Eating Attitude Test (Group Scores) by Ipat Anxiety Questionnaire (Total Score for 55 Ballet Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Ratio
Between Groups	2	686.3720	343.1860	3.1405	.0516
Within Groups	52	5682.4280	109.2775		
Total	54	6368.8000			

Group	Count	Mean	Std. Dev.	Std. Error	Minimum	Maximum	95% Conf. Int for Mean
Grp 1	11	33.1818	9.9782	3.0085	16.0000	47.0000	26.4784 to 39.8852
Grp 2	32	39.4374	10.9719	1.9396	19.0000	65.0000	35.4817 to 43.3933
Grp 3	12	44.0833	9.3172	2.6897	31.0000	61.0000	38.1635 to 50.0032
TOTAL	55	39.2000	10.8601	1.4644	16.0000	65.0000	36.2641 to 42.1359

Multiple Range Test

Scheffe Procedure

Ranges for the 0.052 level -3.54 3.54

No two groups are statistically different at the 0.052 level

appears to be more characteristic of persons with symptomatic attitudes toward eating.

Hypothesis 4

There will be a significant correlation between the means of High versus Low scorers on the EAT and Extreme versus Balanced family types on the FACES II family profile.

Analysis

A chi-square (cross-tabulation) statistic (see Table VIII) was computed to compare groups of EAT scores (Low, Medium, High) and the categories of family types (Balanced, Extreme, Mid-Range). No association was found between the variables at the .05 level (x^2 = 2.876, df = 4, p = 0.5787).

Conclusion

Therefore, hypothesis 4 is not validated. No significant relationship was found between groups of EAT scores and the three categories of family types as measured by FACES II. These results contain evidence that this sample of dancers who scored in the High or Low range on the EAT did not perceive their respective family type as being Extreme or Balanced.

Table VIII

Chi-Square (Cross-Tabulation)
Eating Attitudes Test (Group Scores) by Family Type on Faces II for 55 Ballet Students

Eat Gp.	Count / Row Pct / Col Pct	Family Type 1	2	3	Row Total
1.00		6	2	3	11
		54.5	18.2	27.3	20.8
		31.6	15.4	14.3	
2.00		9	7	14	30
		30.0	23.3	46.7	56.6
		47.4	53.8	66.7	
3.00		4	4	4	12
		33.3	33.3	33.3	22.6
		21.1	30.8	19.0	
Column Total		19	13	21	53
		35.8	24.5	39.6	100.0

Chi-Square	D.F.	Significance	Min.E.F.	Cells with E.F.< 5
2.87636	4	0.5787	2.698	6 of 9 (66.7%)

Statistic	Value	Significance

Hypothesis 5

Those individuals at-risk for the development of anorexia nervosa as defined by high scores on the EAT are likely to have a different demographic profile than those individuals who are not at-risk.

Analysis

A number of chi-square (cross -tabulation) statistics were computed (depicted in Tables IX, X, XI) to compare groups of EAT scores (Low, Medium, High) and scores derived from the Demographic Questionnaire. Specifically, EAT groups were compared with scores on: subjects' feelings about their current weight; feelings about a two-pound weight gain; feelings about a two-pound weight loss; weighing frequency; and, eating patterns. An association was found between EAT groups and subjects' feelings about their current weight (x^2 = 17.62473, df = 6, p = 0.0072). A second association was found between EAT groups and subjects' feelings about a two-pound weight gain (x^2 = 19.937, df = 8, p = 0.0106). Finally, an association was found between EAT groups and subjects' frequency of weighing themselves (X^2 = 23.18993, df = 12, p = 0.0262.

Table IX

Chi-Square (Cross-Tabulation)
Eating Attitudes Test (Group Scores) by Feelings About Current Weight for 55 Ballet Students

Eat Grp	Count / Row Pct / Col Pct	Current 2	3	4	5	Row Total
1.00		2	8	1		11
Low		18.2	72.7	9.1		20.8
		20.0	36.4	5.9		
2.00		7	13	9	1	30
		23.3	43.3	30.0	3.3	56.6
		70.0	59.1	52.9	25.0	
3.00		1	1	7	3	12
High		8.3	8.3	58.3	25.0	22.6
		10.0	4.5	41.2	75.0	
Column Total		10 18.9	22 41.5	17 32.1	4 7.5	53 100.0

Chi-Square	D.F.	Significance	Min.E.F.	Cells with E.F.< 5
17.62473	6	0.0072	0.830	9 of 12 (75.0%)
Statistic		Value	Significance	

Table X

Chi-Square (Cross-Tabulation)
Eating Attitudes Test (Group Scores) by Feelings About Weight Gain for 55 Ballet Students

Count / Row Pct / Col Pct	Gain					Row Total
Eat Grp	1	2	3	4	5	
1.00			3	5	3	11
Low			27.3	45.5	27.3	20.0
			21.4	50.0	37.5	
2.00	2	11	10	5	4	32
	6.3	34.4	31.3	15.6	12.5	58.2
	50.0	57.9	71.4	50.0	50.0	
3.00	2	8	1		1	12
High	16.7	66.7	8.3		8.3	21.8
	50.0	42.1	7.1		12.5	
Column	4	19	14	10	8	55
Total	7.3	34.5	25.5	18.2	14.5	100.0

Chi-Square	D.F.	Significance	Min.E.F.	Cells with E.F.< 5
19.93714	8	0.0106	0.800	12 of 15 (80.0%)

Statistic	Value	Significance

Table XI

Chi-Square (Cross-Tabulation)

Eating Attitudes (Group Scores) by Frequency of Weighing for 55 Ballet Students

Count / Row Pct / Col Pct	Weighing Frequency							Row Total
Eat Grp	1	2	3	4	5	6	7	
1.00 Low		2 18.2 100.0	2 18.2 28.6	4 36.4 25.0	2 18.2 13.3	1 9.1 9.1		11 20.1
2.00 High			4 12.5 57.1	11 34.4 68.8	11 34.4 73.3	5 15.6 45.5	1 3.1 33.3	32 58.2
3.00	1 8.3 100.0		1 8.3 14.3	1 8.3 6.3	2 16.7 13.3	5 41.7 45.5	2 16.7 66.7	12 21.8
Column Total	1 1.8	2 3.6	7 12.7	16 29.3	15 27.3	11 20.0	3 5.5	55 100.0

Chi-Square	D.F.	Significance	Min.E.F.	Cells with E.F.< 5
23.18993	12	0.0262	0.200	18 of 21 (85.790%)
Statistic		Value	Significance	

Conclusion

Therefore, hypothesis 5 is supported. Significant relationships were found between groups of EAT scores and a number of demographic variables, namely: subjects' feelings about their current weight; feelings about a two-pound weight gain; and, frequency of weighing themselves. These results contain evidence that for this sample of dancers, those individuals defined at-risk for the development of eating disorders by high EAT scores exhibit different demographic profiles than individuals who are not at-risk.

Ancillary Findings

A correlation matrix was generated between all of the variables in this study in order to elucidate and go beyond the formal research hypotheses (Appendix E). The most important correlations found include:

A negative correlation was found between agreeing that the perfect body is slim and trim and the EAT score (-.37, $p = 0.003$).

A negative correlation was found between agreeing that clothes only look good on a thin person and the EAT score (-.68, $p = 0.000$).

A negative correlation was found between looking in the mirror and wishing one was thinner and the EAT score (-.32, $p = 0.009$).

A significant correlation was found between hours of dance per week and the EAT score (.29, $p = 0.037$).

A significant correlation was found between feelings about self/social life which have changed due to weight loss and the EAT score (.48, $p = 0.000$).

A significant correlation was found between the EAT score and covert anxiety (.33, $p = 0.007$).

Correlations were also found between agreeing that clothes only look good on a thin person, looking in the mirror and wishing one was thinner and covert anxiety (-.38, $p = 0.003$); and, -.50, $p = 0.000$).

Negative correlations were found between overt anxiety and agreeing that loss of a bit more weight will be just right, looking in the mirror and wishing one was thinner (-.23, $p = 0.047$; and, -.35, $p = 0.004$).

Negative correlations were found between total anxiety and agreeing that loss of a bit more weight will be just right, looking in the mirror and wishing one was thinner (-.33, $p = 0.007$; and, -.46, $p = 0.000$).

Positive correlations were found between leaving home, illness or injury to self, family problems, prolonged dieting and EAT scores (.35, $p = 0.006$; .27, $p = 0.024$; .32, $p = 0.011$; .50, $p = 0.000$).

Positive correlations were found between leaving home, illness or injury to self, and number of hours of dance per week (.35, $p = 0.015$; and, .32, $p = 0.027$).

Positive correlations were also found between leaving home, family problems and covert anxiety (.33, p = 0.009; and, .38, p = 0.003).

Negative correlations were found between agreeing that clothes only look good on a thin person and teasing about appearance, prolonged dieting (-.27, p = 0.031; and, -.37, p = 0.005).

Correlations were also found between looking in the mirror and wishing one was thinner and teasing about appearance, prolonged dieting (-.31, p = 0.015; and, -.32, p = 0.015).

Summary of Findings

In this study, an examination of the hypotheses determined the following: a positive relationship between eating attitudes (EAT) and covert anxiety; significant trends toward anxiety for those individuals with symptomatic eating attitudes; significant associations between groups of eating attitude (EAT) scores and subject's demographic profiles (feelings about their current weight, feelings about a two-pound weight gain, and frequency of weighing themselves).

Hypotheses 2, and 4 were rejected. These results show no significant relationships between eating attitudes (EAT) and family types derived from FACES II. Finally, no significant relationship was found between groups of

eating attitudes (EAT) scores and family types derived from FACES II.

Correlations were calculated other than those directly related to the hypotheses. Some examples include correlations between: attitudes toward thinness and EAT scores; hours per week of dance and EAT scores; EAT scores and anxiety; attitudes toward thinness and anxiety; major life stresses and EAT scores; major life stresses and anxiety; attitudes towards thinness and major life stresses. The results of this research are further summarized in Chapter V as well as a discussion of implications for counselling and future research.

Chapter V

Discussion and Conclusion

The review of the literature in Chapter II contains a rationale for the hypotheses. Some of the rationale can now be viewed with a greater degree of confidence. However, some of the findings require further comment, and some of the more unexpected findings need be examined.

The data trends supported hypothesis number one which stated there would be a significant relationship between Eating Attitude test scores and scores on the Ipat Anxiety Questionnaire. The results indicated there was a significant correlation and/or significant trends between two of the three measures of anxiety (covert and total) and eating attitudes scores. These were positive correlations. A high score on the Eating Attitudes Test was related to a high score on the covert and total anxiety measures of the Ipat Anxiety Questionnaire. These results support the findings of earlier studies wherein anorexics were reported as having high levels of personal disturbance, introversion, neurotic tendencies, and anxieties (Bram, Eger, and Halmi, 1982; Cantwell, et.al., 1976; Johnson, 1985; Strober, 1980; Weeda-Mannak et.al., 1978). The current results were obtained from a

nonclinical group of volunteers and are an attempt to prove that differences in behavior and weight loss may occur gradually as a significant diagnostic aid in early identification.

The data did not support hypothesis number two, the statement that there would be a relationship between eating attitude scores and the cohesion and adaptability scores derived from FACES II. Specifically, a positive correlation was expected between EAT scores and extreme cohesion and adaptability. The obtained results are not consistent with the opinions of Olson (1983), Minuchin (1978) and Selvini-Palazzoli (1978). However, it is noteworthy that categories of family type could only be calculated from scores of perceived cohesion and adaptability. Many subjects failed to answer questions regarding ideal levels of cohesion and adaptability. Kagan and Squires (1985) also failed to find a significant relationship between FACES II profiles and dieting behavior. In a sample of 300 college students, perceptions of family cohesion and adaptability were unrelated to dieting behavior among males and females. However, a large number of family variables were correlated with compulsive eating among males. These researchers caution that they did not assess other aspects of intrafamily dynamics cited by previous literature (Minuchin, 1978). However, it appears that

the "psychosomatic family" definition may not be relevant to all subgroupings of eating disorders.

Hypothesis number three was the statement that there would be a relationship between the means of high versus low scorers on the EAT and the total score on the Ipat Anxiety Questionnaire. While statistical calculations were not significant at the .05 level, a less powerful level of significance (i.e. .10) would have supported the hypothesis. Therefore, a trend toward anxiety appears to be characteristic of individuals with symptomatic attitudes toward eating. Again, these results are consistent with the opinions of other researchers outlined in Chapter II.

Hypothesis number four was rejected with the data revealing no association between groups of eating attitude scores (Low, Medium, High) and the three categories of family types (Balanced, Extreme, Mid-range) assessed from FACES II. As previously stated, it is uncertain whether these results are a definitive measure of the present sample or if lack of subject responses in some instances on FACES II affected the obtained results. However, this sample of dance students who scored in the High or Low range on the EAT did not perceive their respective families as being either Extreme or Balanced.

The data supported hypothesis number five which contained the statement that individuals at-risk (high scorers on EAT) for the development of eating disorders are likely to have a different demographic profile than those individuals who are not believed to be at-risk. Results depicted associations between EAT scores and some of the demographic variables including: subjects' feelings about their current weight; feelings about a two-pound weight gain; and, subjects' frequency of weighing themselves. Therefore, some support is warranted for those researchers who include body image disturbance as an important factor in the development of eating disorders (Bruch, 1973; Dally, 1979; Feighner et.al., 1972; Garner and Garfinkel, 1982; Hamilton et.al., 1985; Russell, 1970).

Additional correlations provided more information about the relationships between eating attitudes and demographic variables. However, correlational relationships cannot be interpreted in terms of cause and effect. Correlations between attitudes toward thinness and symptomatic attitudes toward eating provide supportive evidence for results obtained by Beaumont et al., (1978), Bruch (1979), Crisp et al., (1976), Garner and Garfinkel (1980, 1982), Selvini-Palazzoli (1978). Correlations between hours per week of dance and EAT scores are consistent with studies citing activity level

as partially accountable for the increase and maintenance of eating disorders (Crisp, et al., 1980; Epling and Pierce, in press; Garner and Garfinkel, 1980, 1982; Hamilton et al., 1985; Johnson, 1985). Positive correlations between major life stresses and EAT scores are consistent with the views of Beaumont et al., (1978), Bruch (1973), Hall, et al.,(1983); Weeda-Mannak et al.,(1978). These researchers stress the roles of family illness, teasing about appearance, parental encouragement to diet, needs for achievement and approval as crucial elements in the development and perpetuation of anorexia nervosa and related disorders. Correlations between attitudes toward thinness and anxiety, major life stresses and anxiety, and attitudes toward thinness and major life stresses provide additional evidence for the complex and multidimensional aspects of eating disorders.

Practical Implications

The possible levels of subclinical and perhaps even clinical levels of symptomatic attitudes toward eating and anxiety demonstrated in this research demand the serious attention of physicians, counsellors/psychologists, and dance instructors. Physicians should no longer regard the very peculiar eating habits and "fad" diets of the adolescent as

typical or tolerable. Counselling practitioners need to be more flexible yet consistent in their definition of diagnostic criteria. Finally, dance instructors need to be educated about eating disorders and the increased risk for symptomatic attitudes and behavior within a career in dance. However, it is possible that ballet dancers/students evidence a high degree of body image disturbance and may be less amenable to successful treatment than the general population (Garfinkel, 1981).

Twelve adolescent females in the present sample were found to have Eating Attitude (EAT) scores above 30 which placed them in the high-risk category and means that they exhibited "anorexic type" attitudes and behaviors. These dance students represented 21.8% of this sample. This figure exceeds the reported incidence of 13% for university students (Garner and Garfinkel, 1982; Halmi, Falk, and Swartz, 1982). However, the obtained incidence of 21.8% is somewhat lower than the 38% obtained by Garner and Garfinkel (1982). The present rate of incidence may be affected by the loss of subjects suffered before the data collection phase of this study; or, a direct result of subjects' unwillingness to participate or answer questions accurately. Nonetheless, the results reinforce the opinion that ballet dancers and students constitute a high-risk group, vulnerable to eating disorders.

Whether or not subjects actually dieted restrictively was not confirmed clinically, although two subjects stated that they had been diagnosed as anorexics. However, the high-risk group from the present study exhibited similar characteristics to known clinical groups of anorexia nervosa and bulimia patients reported in the literature. Socioeconomic status, assessed by the Blishen groupings of father's occupations, appears to be positively skewed. The majority of cases fall in the upper middle class which is consistent with demographic information previously cited (Beaumont et al., 1978; Crisp, Palmer, Kalucy, 1976; Dally, 1979; Hall, 1978). Other notable characteristics included significant correlations or trends between symptomatic eating attitudes and attitudes toward thinness; symptomatic eating attitudes and hours per week of dance; symptomatic eating attitudes and major life stresses.

Further studies need to be conducted in order to clarify the roles of these various predisposing factors in order to be useful in a therapeutic situation. These findings present evidence for research and therapeutic intervention from a systemic perspective since it is unlikely that any simple system of relationships or profile define the "typical" anorexic. Basically a systemic approach to therapy, as previously discussed in

2Chapter II, involves attention at the biological, psychological, interpersonal, and cultural levels. Change is not achieved by insight and symptom removal. Change involves knowledge of symptom function and adaptive consequences.

In view of the obtained incidence of 21.8% (which is probably a conservative estimate), the need for education, early identification and intervention is evident. Further use of the Eating Attitudes Test and similar measures is highly recommended as a means of screening individuals who are at risk. Perhaps those ballet students who are the most serious and/or competitive about their careers are subject to the highest risk. Therefore, a means of lessening the career/cultural/interpersonal/psychological pressures is needed to control the development of eating disorders. It is not clear what early intervention devices would be most beneficial. Perhaps the use of self-help groups, bibliotherapy, or testimonials of other dancers/individuals who have suffered from similar problems.

Research Implications

Further studies should be conducted in order to address questions that the current study did not. For example, what were the family members' views (were they

consistent with the subjects' attitudes)? Does dance lead to anorexic-like behavior (as a predisposing factor) or do those individuals predisposed to anorexia nervosa turn to ballet? How do ballet students differ from the general adolescent population? How do male students compare to female students? How do dancers compare to other "at risk" groups? Improvements for this study could have included a larger sample, personal interviews, and follow-up procedures as well as an equivalent control group. The roles of overactivity, anxiety related to eating, onset, and presence of additional psychological symptoms need to be examined further to better predict those at-risk for the development of eating disorders.

Summary

In conclusion, the results of this study did not indicate any significant relationship between eating attitudes (EAT) and family cohesion and adaptability or between EAT group scores and family types. Significant positive relationship trends were observed between eating attitudes and covert and total anxiety. Correlations between eating attitudes (EAT) and demographic variables measuring attitudes toward thinness, body image disturbance, level of activity, and life stresses support the belief that cultural

stereotypes, level of competition, psychological and interpersonal factors influence those at-risk for eating disorders. The percentage of this sample found to be at risk for developing an eating related disorder, reiterates the usefulness of the Eating Attitudes Test as a quick screening device.

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APPENDICES

APPENDIX A

Diagnostic Criteria for Anorexia Nervosa

The information in Appendix A (pages 91 - 102) included diagnostic criteria from the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III), published in 1980 by the American Psychiatric Association, Washington, D.C. Reprints of additional diagnostic criteria published by Dally (1979), Feighner (1972), Garner and Garfinkel (1982), and Russell (1970) have been removed due to the unavailability of copyright permission.

APPENDIX B

Reports of Anorexia in Twins

Reprints of reports of anorexia in twins (Garner and Garfinkel, 1982) have been removed due to the unavailability of copyright permission. This material was found on pages 104 - 105 of the thesis.

APPENDIX C

The Circumplex Model

The diagram of the circumplex model of family functioning (Olson, 1983) on page 107 has been removed due to the unavailability of copyright permission.

APPENDIX D

Sample Copies of the Instruments

The information in Appendix D included four instruments or questionnaires employed in this study. They were:

1. Demographic Questionnaire.
2. Eating Attitudes Test (EAT) - Garner and Garfinkel, 1979.
3. Ipat (ASQ) Anxiety Scale Questionnaire - Cattell, 1976.
4. FACES II - Family Adaptability and Cohesion Evaluation Scales - Olson et al., 1982.

Reprints of the EAT, ASQ, and FACES II scales have been removed due to the unavailability of copyright permission. This material was found on pages 116 - 124 of the thesis.

APPENDIX D

Dear Participant,

Hello, my name is Shauna Rosiechuk. I am a student doing research in order to complete a Master's Degree in Educational Psychology. Basically, this packet of questions deals with my own personal interest in diet habits, weight maintenance, and physical activity. Approximately 200 of these questionnaires have been sent to ballet students/dancers between the ages of 13-20, within the city of Edmonton. While this may sound like a large number of participants, it is very important for me to get as many of these returned (fully answered) as possible. In this way I hope to get an accurate picture of what ballet dancers are actually like. Having had 11 years of ballet training myself, I am still very interested in this field and so it is with great enthusiasm that I look forward to receiving your feedback.

It is important that you realize that your participation in this research is strictly voluntary. The results will be kept confidential in that they are of interest only as a total group. While some of these questions may seem personal or unapplicable to your situation, it would be extremely important to me to have

you ANSWER ALL QUESTIONS to the best of your ability. Remember, this is not a test with right and wrong answers but an informational questionnaire. Hopefully, this is enough begging and pleading by a poor student to get your curiosity and participation. Please try to have this questionnaire returned to the ballet studio or mailed to me personally within 2 weeks of receiving it.

If you have any concerns I would be happy to talk to you. I can be reached at:-

Home - 436-7685

University of Alberta - 432-3746
(Clinical Services) (messages)

Please keep trying to contact me even if it seems that it is difficult to get me.

Thank you for your co-operation,

Shauna Rosiechuk

Shauna Rosiechuk.

PART I

Name: _____

Address: _____

Tel.No.: _____

1. What is your sex? (Circle)

1) Male

2) Female

2. What is your age at last birthday? _____

3. What is your full time occupation? (including student) _____

4. What is your father's or guardian's occupation? _____

5. What is your height? Feet_____ inches_____

6. What is your weight to the nearest pound?_____

7. At your current weight do you feel that you are (circle one)

Extremely Thin	Somewhat Thin	Normal Weight	Moderately Overweight	Extremely Overweight
1	2	3	4	5

8. How much does a two-pound weight gain effect your feelings about yourself?

Extremely	Very Much	Moderately	Slightly	Not at All
1	2	3	4	5

9. How much does a two-pound weight loss effect your feelings about yourself?

Extremely	Very Much	Moderately	Slightly	Not at All
1	2	3	4	5

10. Has there ever been a time when your feelings about yourself or your social life have changed substantially as a result of losing weight?

    1) Yes

    2) No

11. How often do you weigh yourself?

    1) Never

    2) Once a year

    3) Several times a year

    4) Monthly

    5) Weekly

    6) Daily

    7) More than daily

12. Have you ever been on a diet?

    1) Yes

    2) No

13. If you have ever been encouraged to diet, please rank from 1-10 the people that encouraged you to diet the most (1 = most encouraged, 10 = least encouraged).

    Boyfriends_____ Sister_____

    Girlfriends_____ Employer_____

Mother_____ Teacher/Coach_____

Father_____ Other Relative_____

Brother_____ (please specify)_____

14. People have various patterns or routines for eating. Indicate which pattern is closest to your own eating schedule. (Circle)

1) Irregular: I eat on an unpredictable basis

2) Regular: I eat at specific times each day

3) Don't know

15. Indicate whether you usually eat something during the following periods:

	Yes	No
1) Breakfast	___	___
2) Mid-morning	___	___
3) Lunch	___	___
4) Afternoon	___	___
5) Supper	___	___
6) Before Bed	___	___

16. Indicate how much you agree or disagree with the following statements.

	Strongly Agree							Strongly Disagree
1) The perfect body is slim and trim	-	-	-	-	-	-	-	-

	Strongly Agree						Strongly Disagree
2) Clothes only look good on a thin person	-	-	-	-	-	-	-
3) If I can lose a bit more weight I will be just right	-	-	-	-	-	-	-
4) When I look in the mirror, I wish I were thinner	-	-	-	-	-	-	-

5. Indicate how many times, and how long, per week you do the following activities.

Activity	No.of Times Per Week	No.of Hours Per Week	Don't do this Sport	Don't Know
Aerobic Exercise	_____	_____	_____	_____
Gymnastics	_____	_____	_____	_____
Swimming	_____	_____	_____	_____
Tennis (other racquet sports)	_____	_____	_____	_____
Skiing	_____	_____	_____	_____
Jogging/ Running	_____	_____	_____	_____
Other (Specify)	_____	_____	_____	_____

18. Are you involved in competitive physical activity?

1) Yes

2) No

19. Have you experienced any major life changes in the past year? (Check)

	Yes	No
Death of a loved one	___	___

	Yes	No
Serious illness of a loved one	___	___
Leaving home	___	___
Illness or injury to self	___	___
Failure at school or work	___	___
Family problems	___	___
Teasing about appearance	___	___
Prolonged dieting	___	___
Other (Please specify)	___	___

Please feel free to write additional comments here after answering all parts of the questionnaire

_____

_____

_____

APPENDIX E

PEARSON PRODUCT MOMENT CORRELATIONS OF ALL VARIABLES

The following information is provided for interpreting the attached excerpts from the correlation matrix:

LABEL	VARIABLE(S) MEASURED
AGE	age
OCC	father's occupation (Blishen)
HEIGHT	height
WEIGHT	weight
THIN 1 - THIN 4	attitudes toward thinness
DANCE	hours of dance per week
EATSCORE	Eating Attitudes Test (EAT)
COVERT	latent anxiety (IPAT)
OVERT	manifest anxiety (IPAT)
TOTAL	total anxiety (IPAT)
COHI	perceived family cohesion (FACES II)
ADPI	perceived family adaptability (FACES II)
COH2	ideal family cohesion (FACES II)
ADP2	ideal family adaptability (FACES II)
FEEL	self concept related to weight
DIETED	ever dieted

EATING	eating patterns
EAT 1 - EAT 6	meals
COMPETE	participation in competitive activity
CHANGE 1 - CHANGE 9	major life stresses

Pearson Product Moment Correlations of all Variables

PEARSON CORRELATION COEFFICIENTS

	AGE	OCC	HEIGHT	WEIGHT	THIN1	THIN2	THIN3	THIN4	DANCE	EATSCORE	COVERT
AGE	1.0000	.1705	.2620	.1741	-.3552	-.3902	.0267	-.0615	.3079	.3303	-.1342
	(0)	(50)	(52)	(52)	(54)	(54)	(54)	(54)	(40)	(55)	(55)
	P= .	P= .118	P= .030	P= .109	P= .004	P= .002	P= .424	P= .329	P= .027	P= .007	P= .164
OCC	.1705	1.0000	.1201	.1266	.0323	-.1033	.1313	-.0852	.1622	.1478	-.0162
	(50)	(0)	(48)	(49)	(49)	(49)	(49)	(49)	(39)	(50)	(50)
	P= .118	P= .	P= .208	P= .193	P= .413	P= .240	P= .184	P= .280	P= .162	P= .153	P= .456
HEIGHT	.2620	.1201	1.0000	.5133	-.0266	.0866	.0783	.0330	.0179	-.0963	-.2154
	(52)	(48)	(0)	(51)	(51)	(51)	(51)	(51)	(38)	(52)	(52)
	P= .030	P= .208	P= .	P= .000	P= .427	P= .273	P= .293	P= .409	P= .457	P= .248	P= .063
WEIGHT	.1741	.1266	.5133	1.0000	-.0835	-.0425	-.1847	-.3665	-.0681	.0608	.1152
	(52)	(49)	(51)	(0)	(51)	(51)	(51)	(51)	(39)	(52)	(52)
	P= .109	P= .193	P= .000	P= .	P= .280	P= .384	P= .097	P= .004	P= .340	P= .334	P= .208
THIN1	-.3552	.0323	-.0266	-.0835	1.0000	.4444	.2149	.3680	-.0684	-.3667	-.0886
	(54)	(49)	(51)	(51)	(0)	(54)	(54)	(54)	(39)	(54)	(54)
	P= .004	P= .413	P= .427	P= .280	P= .	P= .000	P= .059	P= .003	P= .340	P= .003	P= .262
THIN2	-.3902	-.1033	.0866	-.0425	.4444	1.0000	.3520	.3378	-.2460	-.6896	-.3735
	(54)	(49)	(51)	(51)	(54)	(0)	(54)	(54)	(39)	(54)	(54)
	P= .002	P= .240	P= .273	P= .384	P= .000	P= .	P= .005	P= .006	P= .066	P= .000	P= .003
THIN3	.0267	.1313	.0783	-.1847	.2149	.3520	1.0000	.6510	.2034	-.2228	-.3905
	(54)	(49)	(51)	(51)	(54)	(54)	(0)	(54)	(39)	(54)	(54)
	P= .424	P= .184	P= .293	P= .097	P= .059	P= .005	P= .	P= .000	P= .107	P= .053	P= .002
THIN4	-.0615	-.0852	.0330	-.3665	.3680	.3378	.6510	1.0000	.1529	-.3199	-.5013
	(54)	(49)	(51)	(51)	(54)	(54)	(54)	(0)	(39)	(54)	(54)
	P= .329	P= .280	P= .409	P= .004	P= .003	P= .006	P= .000	P= .	P= .176	P= .009	P= .000
DANCE	.3079	.1622	.0179	-.0681	-.0684	-.2460	.2034	.1529	1.0000	.2862	.2380
	(40)	(39)	(38)	(39)	(39)	(39)	(39)	(39)	(0)	(40)	(40)
	P= .027	P= .162	P= .457	P= .340	P= .340	P= .066	P= .107	P= .176	P= .	P= .037	P= .070
EATSCORE	.3303	.1478	-.0963	.0608	-.3667	-.6896	-.2228	-.3199	.2862	1.0000	.3280
	(55)	(50)	(52)	(52)	(54)	(54)	(54)	(54)	(40)	(0)	(55)
	P= .007	P= .153	P= .248	P= .334	P= .003	P= .000	P= .053	P= .009	P= .037	P= .	P= .007
COVERT	-.1342	-.0162	-.2154	.1152	-.0886	-.3735	-.3905	-.5013	.2380	.3280	1.0000
	(55)	(50)	(52)	(52)	(54)	(54)	(54)	(54)	(40)	(55)	(0)
	P= .164	P= .456	P= .063	P= .208	P= .262	P= .003	P= .002	P= .000	P= .070	P= .007	P= .

(COEFFICIENT / (CASES) / 1-TAILED SIG) " . " IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED

University of Alberta

PEARSON CORRELATION COEFFICIENTS

	AGE	OCC	HEIGHT	WEIGHT	THIN1	THIN2	THIN3	THIN4	DANCE	EATSCORE	COVERT
OVERT	-.1931	.0082	-.1254	-.0193	-.0147	-.0910	-.2300	-.3536	.0893	.0839	.6356
	(55)	(50)	(52)	(52)	(54)	(54)	(54)	(54)	(40)	(55)	(55)
	P= .079	P= .477	P= .188	P= .446	P= .458	P= .256	P= .047	P= .004	P= .292	P= .271	P= .000
TOTAL	-.1848	-.0028	-.1817	.0437	-.0518	-.2364	-.3309	-.4611	.1766	.2100	.8769
	(55)	(50)	(52)	(52)	(54)	(54)	(54)	(54)	(40)	(55)	(55)
	P= .088	P= .492	P= .099	P= .379	P= .355	P= .043	P= .007	P= .000	P= .138	P= .062	P= .000
COH1	-.1624	.0261	.0634	-.2285	.2442	.2541	.2510	.4546	-.1051	-.2050	-.3689
	(53)	(48)	(51)	(51)	(52)	(52)	(52)	(52)	(39)	(53)	(53)
	P= .123	P= .430	P= .329	P= .053	P= .041	P= .035	P= .036	P= .000	P= .262	P= .070	P= .003
ADP1	-.1903	.0149	.1743	-.3549	.1593	.1019	.2226	.3984	.0499	-.1192	-.2183
	(53)	(48)	(51)	(51)	(52)	(52)	(52)	(52)	(39)	(53)	(53)
	P= .086	P= .460	P= .111	P= .005	P= .130	P= .236	P= .056	P= .002	P= .381	P= .198	P= .058
COH2	-.1877	-.1404	-.0076	-.5674	.1932	.3205	.5008	.5495	-.0883	-.2515	-.3473
	(39)	(37)	(38)	(39)	(38)	(38)	(38)	(38)	(31)	(39)	(39)
	P= .126	P= .204	P= .482	P= .000	P= .123	P= .025	P= .001	P= .000	P= .318	P= .061	P= .015
ADP2	.0373	-.0851	.0924	-.2038	.0026	-.0337	.1974	.0789	-.1151	.0851	-.1598
	(39)	(37)	(38)	(39)	(38)	(38)	(38)	(38)	(31)	(39)	(39)
	P= .411	P= .308	P= .291	P= .107	P= .494	P= .420	P= .117	P= .319	P= .269	P= .303	P= .166
FEEL	.2843	-.1564	.0330	.1344	-.1460	-.4125	-.4126	-.2461	.2008	.4790	.2828
	(55)	(50)	(52)	(52)	(54)	(54)	(54)	(54)	(40)	(55)	(55)
	P= .018	P= .139	P= .408	P= .171	P= .146	P= .001	P= .001	P= .036	P= .107	P= .000	P= .018
DIETED	.2356	-.1115	-.0743	.1320	-.3804	-.5143	-.3242	-.4939	.1013	.5730	.4302
	(55)	(50)	(52)	(52)	(54)	(54)	(54)	(54)	(40)	(55)	(55)
	P= .042	P= .220	P= .300	P= .175	P= .002	P= .000	P= .008	P= .000	P= .267	P= .000	P= .001
EATING	-.0345	.0460	.2550	.2794	.1259	.1856	.0130	-.2036	.0411	-.1145	.2295
	(52)	(48)	(49)	(50)	(51)	(51)	(51)	(51)	(38)	(52)	(52)
	P= .404	P= .378	P= .039	P= .025	P= .189	P= .096	P= .464	P= .076	P= .403	P= .210	P= .051
EAT1	-.0440	-.2158	-.1659	-.2259	.0976	-.0194	.2176	.2399	.1123	.0737	-.1718
	(55)	(50)	(52)	(52)	(54)	(54)	(54)	(54)	(40)	(55)	(55)
	P= .375	P= .066	P= .120	P= .054	P= .241	P= .445	P= .057	P= .040	P= .245	P= .296	P= .105
EAT2	-.1144	-.0916	.0560	.1716	-.0359	.0834	-.2062	-.1661	-.2050	-.2025	.0319
	(53)	(49)	(50)	(50)	(52)	(52)	(52)	(52)	(38)	(53)	(53)
	P= .207	P= .266	P= .350	P= .117	P= .400	P= .407	P= .071	P= .120	P= .108	P= .073	P= .410

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PEARSON CORRELATION COEFFICIENTS

	AGE	OCC	HEIGHT	WEIGHT	THIN1	THIN2	THIN3	THIN4	DANCE	EATSCORE	COVERT
EAT3	-.2736	.0391	.0387	.1167	.3405	.2325	-.0197	.1730	-.3129	-.2409	-.1626
	(55)	(50)	(52)	(52)	(54)	(54)	(54)	(54)	(40)	(55)	(55)
	P= .022	P= .394	P= .393	P= .205	P= .006	P= .045	P= .444	P= .106	P= .025	P= .038	P= .118
EAT4	-.1535	.1374	-.0325	.0853	.3172	.3474	.0435	.2394	-.2015	-.2666	-.0349
	(53)	(48)	(50)	(50)	(52)	(52)	(52)	(52)	(38)	(53)	(53)
	P= .136	P= .176	P= .411	P= .278	P= .011	P= .006	P= .380	P= .044	P= .113	P= .027	P= .402
EAT5	-.2257	-.2380	-.1304	-.0517	.2164	.3054	.0645	.0000	-.3184	-.2780	-.0366
	(52)	(49)	(49)	(49)	(51)	(51)	(51)	(51)	(38)	(52)	(52)
	P= .054	P= .050	P= .186	P= .362	P= .064	P= .015	P= .326	P= .500	P= .026	P= .023	P= .398
EAT6	-.0550	-.0344	.0833	-.0716	.0866	.0949	.0435	.1898	-.2591	-.0682	-.1959
	(53)	(50)	(50)	(50)	(52)	(52)	(52)	(52)	(39)	(53)	(53)
	P= .348	P= .406	P= .283	P= .311	P= .271	P= .252	P= .380	P= .089	P= .056	P= .314	P= .080
COMPETE	-.1116	-.0100	-.0786	-.0167	.1700	.0170	.1638	.0578	-.0177	.1337	-.1635
	(54)	(49)	(51)	(51)	(53)	(53)	(53)	(53)	(39)	(54)	(54)
	P= .211	P= .473	P= .292	P= .454	P= .112	P= .452	P= .121	P= .340	P= .457	P= .168	P= .119
CHANGE1	.0609	.1308	-.0998	-.1290	-.2124	-.2837	-.0263	-.2428	.1077	-.0462	.3175
	(50)	(46)	(47)	(48)	(49)	(49)	(49)	(49)	(37)	(50)	(50)
	P= .337	P= .193	P= .252	P= .191	P= .071	P= .024	P= .429	P= .046	P= .263	P= .375	P= .012
CHANGE2	-.1493	-.1347	-.2610	.0771	-.0933	-.2149	-.2960	-.2718	.0273	.1677	.4904
	(50)	(46)	(47)	(48)	(49)	(49)	(49)	(49)	(37)	(50)	(50)
	P= .150	P= .186	P= .038	P= .301	P= .262	P= .069	P= .019	P= .029	P= .436	P= .122	P= .000
CHANGE3	.2904	.4353	-.0998	-.0914	-.2653	-.2885	.1511	-.1502	.3591	.3492	.3338
	(50)	(46)	(47)	(48)	(49)	(49)	(49)	(49)	(37)	(50)	(50)
	P= .020	P= .001	P= .252	P= .268	P= .033	P= .022	P= .150	P= .151	P= .015	P= .006	P= .009
CHANGE4	.2865	-.0370	-.1215	.0349	.0287	-.1904	.0109	-.0547	.3120	.2729	.1271
	(53)	(50)	(50)	(51)	(52)	(52)	(52)	(52)	(39)	(53)	(53)
	P= .019	P= .399	P= .200	P= .404	P= .420	P= .088	P= .469	P= .350	P= .027	P= .024	P= .182
CHANGE5	-.1251	.1591	-.1881	.1755	.0082	-.1793	-.1646	-.2208	-.0067	.1898	.2771
	(50)	(46)	(47)	(48)	(49)	(49)	(49)	(49)	(37)	(50)	(50)
	P= .193	P= .146	P= .103	P= .116	P= .478	P= .109	P= .129	P= .064	P= .484	P= .093	P= .026
CHANGE6	.1153	.0853	-.2721	.1096	-.2265	-.3778	-.3243	-.3169	.0958	.3184	.3845
	(51)	(47)	(48)	(49)	(50)	(50)	(50)	(50)	(37)	(51)	(51)
	P= .210	P= .284	P= .031	P= .227	P= .057	P= .003	P= .011	P= .012	P= .286	P= .011	P= .003

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- - - - - - - - - - - - - - - P E A R S O N C O R R E L A T I O N C O E F F I C I E N T S - - - - - - - - - - - - -

	AGE	DCC	HEIGHT	WEIGHT	THIN1	THIN2	THIN3	THIN4	DANCE	EATSCORE	COVERT
CHANGE7	.0700	.0634	-.0269	.2072	-.2600	-.2656	-.1681	-.3057	-.0180	.2079	.3706
	(51)	(47)	(48)	(49)	(50)	(50)	(50)	(50)	(37)	(51)	(51)
	P= .313	P= .336	P= .428	P= .077	P= .034	P= .031	P= .122	P= .015	P= .458	P= .072	P= .004
CHANGE8	.3735	.0161	.0992	.1973	-.2098	-.3723	-.3629	-.3158	.1393	.5037	.1857
	(48)	(45)	(46)	(47)	(47)	(47)	(47)	(47)	(36)	(48)	(48)
	P= .004	P= .458	P= .256	P= .092	P= .078	P= .005	P= .006	P= .015	P= .209	P= .000	P= .103
CHANGE9	-.2304	.1021	-.2937	.0281	-.0283	-.2767	-.1757	-.3126	.3581	.1875	.4172
	(22)	(22)	(22)	(22)	(22)	(22)	(22)	(22)	(17)	(22)	(22)
	P= .151	P= .326	P= .092	P= .451	P= .450	P= .106	P= .217	P= .078	P= .079	P= .202	P= .027

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	EAT3	EAT4	EAT5	EAT6	COMPETE	CHANGE1	CHANGE2	CHANGE3	CHANGE4	CHANGE5	CHANGE6
AGE	-.2736	-.1535	-.2257	-.0550	-.1116	.0609	-.1493	.2904	.2865	-.1251	.1153
	(55)	(53)	(52)	(53)	(54)	(50)	(50)	(50)	(50)	(50)	(51)
	P= .022	P= .136	P= .054	P= .348	P= .211	P= .337	P= .150	P= .020	P= .019	P= .193	P= .210
OCC	.0391	.1374	-.2380	-.0344	-.0100	.1308	-.1347	.4353	-.0370	.1591	.0853
	(50)	(48)	(49)	(50)	(49)	(46)	(46)	(46)	(50)	(46)	(47)
	P= .394	P= .176	P= .050	P= .406	P= .473	P= .193	P= .186	P= .001	P= .399	P= .146	P= .284
HEIGHT	.0387	-.0325	-.1304	.0833	-.0786	-.0998	-.2610	-.0998	-.1215	-.1881	-.2721
	(52)	(50)	(49)	(50)	(51)	(47)	(47)	(47)	(50)	(47)	(48)
	P= .393	P= .411	P= .186	P= .283	P= .292	P= .252	P= .038	P= .252	P= .200	P= .103	P= .031
WEIGHT	.1167	.0853	-.0517	-.0716	-.0167	-.1290	.0771	-.0914	.0349	.1755	.1096
	(52)	(50)	(49)	(50)	(51)	(48)	(48)	(48)	(51)	(48)	(49)
	P= .205	P= .278	P= .362	P= .311	P= .454	P= .191	P= .301	P= .268	P= .404	P= .116	P= .227
THIN1	.3405	.3172	.2164	.0866	.1700	-.2124	-.0933	-.2653	.0287	.0082	-.2265
	(54)	(52)	(51)	(52)	(53)	(49)	(49)	(49)	(52)	(49)	(50)
	P= .006	P= .011	P= .064	P= .271	P= .112	P= .071	P= .262	P= .033	P= .420	P= .478	P= .057
THIN2	.2325	.3474	.3054	.0949	.0170	-.2837	-.2149	-.2885	-.1904	-.1793	-.3778
	(54)	(52)	(51)	(52)	(53)	(49)	(49)	(49)	(52)	(49)	(50)
	P= .045	P= .006	P= .015	P= .252	P= .452	P= .024	P= .069	P= .022	P= .088	P= .109	P= .003
THIN3	-.0197	.0435	.0645	.0435	.1638	-.0263	-.2960	.1511	.0109	-.1646	-.3243
	(54)	(52)	(51)	(52)	(53)	(49)	(49)	(49)	(52)	(49)	(50)
	P= .444	P= .380	P= .326	P= .380	P= .121	P= .429	P= .019	P= .150	P= .469	P= .129	P= .011
THIN4	.1730	.2394	.0000	.1898	.0578	-.2428	-.2718	-.1502	-.0547	-.2208	-.3169
	(54)	(52)	(51)	(52)	(53)	(49)	(49)	(49)	(52)	(49)	(50)
	P= .106	P= .044	P= .500	P= .089	P= .340	P= .046	P= .029	P= .151	P= .350	P= .064	P= .012
DANCE	-.3129	-.2015	-.3184	-.2591	-.0177	.1077	.0273	.3591	.3120	-.0067	.0958
	(40)	(38)	(38)	(39)	(39)	(37)	(37)	(37)	(39)	(37)	(37)
	P= .025	P= .113	P= .026	P= .056	P= .457	P= .263	P= .436	P= .015	P= .027	P= .484	P= .286
EATSCORE	-.2409	-.2666	-.2780	-.0682	.1337	-.0462	.1677	.3492	.2729	.1898	.3184
	(55)	(53)	(52)	(53)	(54)	(50)	(50)	(50)	(53)	(50)	(51)
	P= .038	P= .027	P= .023	P= .314	P= .168	P= .375	P= .122	P= .006	P= .024	P= .093	P= .011
COVERT	-.1626	-.0349	-.0366	-.1959	-.1635	.3175	.4904	.3338	.1271	.2771	.3845
	(55)	(53)	(52)	(53)	(54)	(50)	(50)	(50)	(53)	(50)	(51)
	P= .118	P= .402	P= .398	P= .080	P= .119	P= .012	P= .000	P= .009	P= .182	P= .026	P= .003

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	EAT3	EAT4	EAT5	EAT6	COMPETE	CHANGE1	CHANGE2	CHANGE3	CHANGE4	CHANGE5	CHANGE6
OVERT	-.0739	.2047	-.0504	.0602	-.0774	.2668	.1545	.2115	.2011	.2965	.3338
	(55)	(53)	(52)	(53)	(54)	(50)	(50)	(50)	(53)	(50)	(51)
	P= .296	P= .071	P= .361	P= .334	P= .289	P= .031	P= .142	P= .070	P= .074	P= .018	P= .008
TOTAL	-.1242	.1100	-.0489	-.0574	-.1268	.3242	.3424	.2984	.1874	.3220	.3979
	(55)	(53)	(52)	(53)	(54)	(50)	(50)	(50)	(53)	(50)	(51)
	P= .183	P= .216	P= .365	P= .341	P= .180	P= .011	P= .007	P= .018	P= .090	P= .011	P= .002
COH1	.3492	.1786	.1859	.0867	.1498	-.0815	-.2190	-.1332	-.0883	-.1990	-.4884
	(53)	(51)	(50)	(51)	(52)	(48)	(48)	(48)	(51)	(48)	(49)
	P= .005	P= .105	P= .098	P= .273	P= .145	P= .291	P= .067	P= .183	P= .269	P= .088	P= .000
ADP1	.1353	.1724	.0269	.1247	.0508	-.0798	-.0666	-.1164	-.1598	-.2618	-.3795
	(53)	(51)	(50)	(51)	(52)	(48)	(48)	(48)	(51)	(48)	(49)
	P= .167	P= .113	P= .426	P= .192	P= .360	P= .295	P= .326	P= .215	P= .131	P= .036	P= .004
COH2	.0933	.0379	.0095	.1054	.2134	.1034	-.3380	-.2185	-.1071	-.0672	-.5705
	(39)	(38)	(37)	(37)	(38)	(37)	(37)	(37)	(38)	(37)	(38)
	P= .286	P= .411	P= .478	P= .267	P= .099	P= .271	P= .020	P= .097	P= .261	P= .346	P= .000
ADP2	-.0921	-.0173	.0775	-.0930	-.1698	.0903	-.1163	-.0818	.0085	-.2447	.0323
	(39)	(38)	(37)	(37)	(38)	(37)	(37)	(37)	(38)	(37)	(38)
	P= .288	P= .459	P= .324	P= .292	P= .154	P= .298	P= .247	P= .315	P= .480	P= .072	P= .424
FEEL	-.1765	-.2608	-.1435	-.1608	-.0015	-.0355	.1854	-.0784	.2781	.0852	.1440
	(55)	(53)	(52)	(53)	(54)	(50)	(50)	(50)	(53)	(50)	(51)
	P= .099	P= .030	P= .155	P= .125	P= .496	P= .403	P= .099	P= .294	P= .022	P= .278	P= .157
DIETED	-.2703	-.5453	.0543	-.1422	-.0650	.1531	.4782	.0902	.1671	.0276	.3287
	(55)	(53)	(52)	(53)	(54)	(50)	(50)	(50)	(53)	(50)	(51)
	P= .023	P= .000	P= .351	P= .155	P= .320	P= .144	P= .000	P= .267	P= .116	P= .424	P= .009
EATING	-.1373	.0465	.0592	-.3384	.0129	.1047	-.0775	.0490	.1230	.1445	-.1016
	(52)	(50)	(49)	(50)	(51)	(48)	(48)	(48)	(51)	(48)	(49)
	P= .166	P= .374	P= .343	P= .008	P= .464	P= .239	P= .300	P= .370	P= .195	P= .164	P= .244
EAT1	-.0328	-.1792	.2217	.0292	-.0086	-.0439	-.1819	-.0051	.0518	-.1011	.1575
	(55)	(53)	(52)	(53)	(54)	(50)	(50)	(50)	(53)	(50)	(51)
	P= .406	P= .100	P= .057	P= .418	P= .475	P= .381	P= .103	P= .486	P= .356	P= .242	P= .135
EAT2	.1764	.1325	.0913	.1631	-.2254	.2381	-.0165	.0476	.0716	.0639	.0698
	(53)	(51)	(51)	(52)	(52)	(48)	(48)	(48)	(52)	(48)	(49)
	P= .103	P= .177	P= .262	P= .124	P= .054	P= .052	P= .456	P= .374	P= .307	P= .333	P= .317

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	CHANGE7	CHANGE8	CHANGE9
AGE	.0700	.3735	-.2304
	(51)	(48)	(22)
	P= .313	P= .004	P= .151
OCC	.0634	.0161	.1021
	(47)	(45)	(22)
	P= .336	P= .458	P= .326
HEIGHT	-.0269	.0992	-.2937
	(48)	(46)	(22)
	P= .428	P= .256	P= .092
WEIGHT	.2072	.1973	.0281
	(49)	(47)	(22)
	P= .077	P= .092	P= .451
THIN1	-.2600	-.2098	-.0283
	(50)	(47)	(22)
	P= .034	P= .078	P= .450
THIN2	-.2656	-.3723	-.2767
	(50)	(47)	(22)
	P= .031	P= .005	P= .106
THIN3	-.1681	-.3629	-.1757
	(50)	(47)	(22)
	P= .122	P= .006	P= .217
THIN4	-.3057	-.3158	-.3126
	(50)	(47)	(22)
	P= .015	P= .015	P= .078
DANCE	-.0180	.1393	.3581
	(37)	(36)	(17)
	P= .458	P= .209	P= .079
EATSCORE	.2079	.5037	.1875
	(51)	(48)	(22)
	P= .072	P= .000	P= .202
COVERT	.3706	.1857	.4172
	(51)	(48)	(22)
	P= .004	P= .103	P= .027

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	CHANGE7	CHANGE8	CHANGE9
OVERT	.4750	-.0202	.4316
	(51)	(48)	(22)
	P= .000	P= .446	P= .022
TOTAL	.4795	.0829	.4668
	(51)	(48)	(22)
	P= .000	P= .288	P= .014
COH1	-.3756	-.1538	-.3201
	(49)	(46)	(22)
	P= .004	P= .154	P= .073
ADP1	-.3371	.0048	-.1152
	(49)	(46)	(22)
	P= .009	P= .487	P= .305
COH2	-.3150	-.2040	-.3308
	(38)	(37)	(16)
	P= .027	P= .113	P= .105
ADP2	-.0905	.1009	-.0502
	(38)	(37)	(16)
	P= .294	P= .276	P= .427
FEEL	.0952	.2660	.2256
	(51)	(48)	(22)
	P= .253	P= .034	P= .156
DIETED	.2083	.3940	.2256
	(51)	(48)	(22)
	P= .071	P= .003	P= .156
EATING	.1738	.0023	-.0845
	(49)	(46)	(21)
	P= .116	P= .494	P= .358
EAT1	-.1359	-.0676	-.2390
	(51)	(48)	(22)
	P= .171	P= .324	P= .142
EAT2	.2138	.2083	-.1581
	(49)	(46)	(21)
	P= .070	P= .082	P= .247

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